

2000

# Psychosocial factors in marital and family relationships associated with physical illness: a case for collaborative health care

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**Psychosocial factors in marital and family relationships associated with physical  
illness: A case for collaborative health care**

**by**

**Clifford Stanley Jernigan**

**A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of  
DOCTOR OF PHILOSOPHY**

**Major: Human Development and Family Studies (Marriage and Family Therapy)**

**Major Professor: Harvey H. Joanning**

**Iowa State University**

**Ames, Iowa**

**2000**

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Clifford Stanley Jernigan  
has met the dissertation requirements of Iowa State University**

Signature was redacted for privacy.

**Major Professor**

Signature was redacted for privacy.

**For the Major Program**

Signature was redacted for privacy.

**For the Graduate College**

In dedication and memoriam to

Mr. Lee A. Jernigan

In whose footsteps I walked as a boy

And with whose path I have merged as a man.

Our spirits will forever walk together

The trails of life.

**TABLE OF CONTENTS**

INTRODUCTION	1
LITERATURE REVIEW	22
METHOD	50
RESULTS	57
DISCUSSION	68
CONCLUSIONS	79
APPENDIX A. SURVEY INSTRUMENT	85
APPENDIX B. TABLES	96
APPENDIX C. CORRELATION MATRICES	115
APPENDIX D. HUMAN SUBJECTS DOCUMENTATION	123
REFERENCES	131
ACKNOWLEDGEMENTS	157



## **ABSTRACT**

In the diagnosis and treatment of physical illness, limited attention is given to psychosocial factors related to the etiology and pathogenesis of symptoms. Researchers have increasingly begun to acknowledge the importance of psychosocial factors in the assessment, diagnosis, and treatment of apparently biomedical symptoms. The DSM-IV Axis IV category, Psychosocial and Environmental Problems, acknowledges psychological factors affecting a person's medical condition, and thereby infers an association between the factors and physical illness. Axis IV considers psychosocial and environmental problems in the diagnostic process, and Axis III describes general medical conditions related to mental disorders. Understanding the connection between biomedical and psychosocial symptoms may provide new cues to a more accurate diagnosis and treatment of organic as well as mental disorders. This pilot study examines relationships between psychosocial factors and apparently biomedical symptoms. Patients are surveyed regarding their treatment experience. It is suggested that marital and family therapy is an appropriate modality in the delivery of health care, and patients may benefit from a biopsychosocial approach to treatment for general medical conditions, both acute and chronic. Treatments based on this approach include psychotherapy (marital and family therapy) as part of the plan. Implications are also made for the prevention and prediction of physical illness.

## **INTRODUCTION**

Do the symptoms of physical illness begin as internal physical etiology only? Or are they the result of stressful situations (e.g., relationships) that tend to go unresolved or treated over time? The above questions appear to presuppose a cause-effect—linear perspective of illness, but not necessarily. To propose an answer, a consideration of the rationalist-empiricist discourse on reality may be helpful.

### **Philosophical Foundations: The Rationalist-Empiricist Debate**

One important shift in philosophical emphasis after the medieval period was the move from a concern with the nature of being to a concern with the nature of knowledge. With the advent of the Renaissance and the move to the intellectualism of the Enlightenment (1500-1700), there was a greater dependence on knowing. This emphasis on epistemology can be most clearly seen in the rationalist-empiricist debate and the philosophical views of Descartes, Hume, and Kant. The rationalist-empiricist debate presupposes two features of reality, necessary (or essential) and contingent. Necessary features are those which do not change and can be known through inductive or deductive reasoning. Contingent features, on the other hand, are features an object may possess at some but not all of the time (Davies, 1992).

## **Descartes and rationalist epistemology**

René Descartes (1596-1650), seventeenth century soldier and mathematician, is often recognized as the French philosopher who uttered the Latin phrase, "Cogito, ergo sum." In English transliteration, the phrase reads, "I think, therefore, I am." Descartes' cogito represented the rationalist epistemological position—a position committed to the Rationalist Insight Theory, which posits that the human mind can grasp necessary features of reality." Rationalists attempt to arrive at necessary features through mathematical reasoning rather than through sense perception. Knowledge gained through sense perception is contingent and therefore subject to change, what Plato calls "opinion." Descartes wanted to attain a knowledge that could not later be proven false, a goal he approached through the method of Systematic Doubt. "Seeing is not always believing," because of the possibility of hallucination or some difficulty with the mental apparatus; therefore, the only reliable reality was intellectual or rational knowledge intuited in necessary truths. Necessary truths such as those found in mathematics and the related sciences are intellectually grasped or intuited and could be "seen" with the mind. The cogito principle for Descartes represented a truth based on reasoning that could not be doubted without contradiction. This principle can be summed up in the following statement: "if one doubts that he or she exists, the doubter is at that

moment engaged in the thinking process, an act that would not be possible if the thinker/doubter did not exist" (Davies, 1992).

### **Hume and empiricist epistemology**

Empiricism is the theory that all knowledge is derived from sensory experience. Empirical knowledge is experiential, grounded in sensory experience rather than in intellectual thought. David Hume (1711-1776) questioned the belief in cause and effect relationships (necessary relations). The concept of necessary relations posits that for every cause there must be an effect, and for every effect there must be a cause. Hume maintained that cause-effect is based in our experience on the co-occurrence of sensory experiences (e.g., the image of flame, the sensation of heat) (Davies, 1992). Causation, then, is initially derived from our experience of the repeated conjunction of resembling sense impressions. To say that you "see" something cause something else (an effect) is really to say you have just experienced two sense impressions in succession. Hume further questions the idea of a necessary connection between two sense impressions (e.g., flame impressions have to cause heat impressions), a notion reinforced by the repeated co-occurrence of past sense impressions; these co-occurrences cause the expectation that the future will resemble the past. Hume says that there is no empirical support for believing in the necessary connection between two sense impressions. Necessary connection is a "habit of the mind,"—a custom of

experiencing things a certain way that results in our projecting onto the future the expectation of the same patterns we have experienced in the past. Necessity, he says, is not in the world, but in our minds. There is no logical support for the cause-effect phenomenon. We cannot prove empirically that past patterns will continue in the future. Two elements influence our belief that the future will resemble the past. The first is our commitment to mathematical probability, preferred over the inductive leap which characterizes modern scientific methodology. The second is our belief in the Uniformity of Nature (Davies, 1992). Humean empiricism questions whether our knowledge of the world is rational only or empirical only. Hume's answer is that we can know reality through experience.

### **The Kantian synthesis**

Immanuel Kant (1724-1804) was originally a proponent of rationalism. Like Descartes, Kant believed the mind had the ability to intuit essential features of reality. To Kant, the mind was like a mirror or X-ray machine, able to read or reflect the indwelling structure of reality itself. As a rationalist, Kant believed that the human mind could discern the logical structure of reality through the process of thought. In essence, a person could think of reality the way it really was (Davies, 1992). According to philosophical tradition, Kant was awakened by the writings of Hume to reconsider his beliefs. Kant's awakening resulted in what is known as the Kantian

“watershed,” a synthetic view of the rationalist-empiricist positions. In the Critique of Pure Reason, he writes:

There can be no doubt that our knowledge begins with experience. For how should our faculty of knowledge be awakened into action did not objects affecting our senses partly of themselves produce representations, partly arouse the activity of our understanding to compare these representations and, by combining and separating them, work up the raw material of the sensible impressions into...experience?...we have no knowledge antecedent to experience.... For it may well be that even our empirical knowledge is made of what we receive through sense impressions and of what our own faculty of knowledge (sensible impressions serving merely as the occasion) supplies from itself. (Kant, 1836, p. 32)

Kant was also concerned with how to justify the principal of causality as a basis for science. Hume “forced” him to see that the so-called idea of necessary connection between cause and effect was neither a rationalistic insight nor the result of an empirical idea. Hume argued that the “notion” of necessary connection was a “habit of the mind,” projected onto reality. Necessity as a characteristic of reality was in the mind, not in the world. In response, Kant concluded that all our knowledge involves not only the data of sense impressions, but also the conceptual contributions of the mind (Davies, 1992); this is the Kantian watershed view (synthesis). The mind is not just a passive receptor of information from sensory experience, but rather offers its own conclusions in the formation of knowledge, an early basis for constructivism. The mind imposes on experience its own form of cognition, determined by the structure of human understanding. Kant, in essence, synthesizes the intuition of the

rationalists with the realization of Hume that there is no such sense impression for causality. Kant does not believe that the mind creates reality; rather, the sensory world is experienced by the mind, and the mind composes sense experience into phenomena (Davies, 1992). Kant further makes the distinction between phenomena and noumena, positing that we do not experience noumenal world—the thing as it is in itself. This noumenal world is never known except as a logical posit (Davies, 1992).

### **Theoretical Foundations**

#### **Theory evolution**

Theories are important to our perception of reality. Thomas Kuhn (1977) talks about the evolution of theory through stages. The first stage a theory undergoes is called the pre-paradigmatic stage. At this stage practitioners are split into many competing schools, each approaching the same subject differently, while claiming theirs is the best way. After a major scientific breakthrough, the discipline goes through a post-paradigmatic period, when it is dominated by one school (Kuhn, 1977). Nichols and Schwartz (1991) refer to three stages:

The essentialistic stage is characterized by tunnel vision, zeal, and chauvinism after a breakthrough. The transitional stage is characterized by a period of high productivity and creativity, fueled by the excitement and commitment that accompanies the belief that one is on the brink of something big. In this stage proponents tend to see their model as right and all others as wrong. The ecological stage is characterized by a tension that forces its proponents to a

metaposition—one from which they can see their model as one among an ecology of models. (Nichols & Schwartz, 1991, p. 80-81)

From this metaposition theorists can better see the “patterns that connect” (Bateson, 1979) their model with other models once believed to be incompatible. The result may be a metatheory that is able to account for and deal with a much wider range of phenomena than any of the single models. The Kantian watershed is a view arrived at from a metaposition. The metatheory concept is important to the development of grounded theory, richly elaborated theory grounded in empirical data (Glaser, 1978; Glaser & Strauss, 1967; Goetz & LeCompte, 1984); it is theory based on empirical observation rather than deduction. The epistemological discourse between the Cartesian and Humean camps and the Kantian synthesis are important to modern social science theory, research, and practice. Rationalists put forth their theory of intuition through mathematics and the related sciences; in response, empiricists put forth their theory of knowledge through experience. The response to the two approaches is Kant’s watershed view. One major contribution of the rationalist-empiricist discourse is its part in the development of a paradigm important to the postmodern social science world—constructivism (Mahoney & Lyddon, 1988).

### **Major paradigms**

A paradigm is defined as the basic belief or worldview that guides action, not only in methodology but in ontology and epistemology (Lincoln & Guba, 1985). A



paradigm represents a worldview that defines, for its holder, the nature of the “world,” the individual’s place in it, and the range of possible relationships to that world and its parts (Lincoln & Guba, 1985). As belief systems, paradigms are based on ontological, epistemological, and methodological assumptions. Ontology raises questions about the nature of reality. Epistemology asks, how do we know the world? What is the relationship between the inquirer and the known? Methodology focuses on how we gain knowledge about the world (Guba & Lincoln, 1994).

### **Positivism and postpositivism**

Descartes’ Discourse on Method, written around 1637, posited that the language of mathematics is the language for the process of verification. Positivism is based on deductive reasoning and the verification of hypotheses, often illustrated in syllogisms such as the following: All men are mortal; Socrates is a man; therefore, Socrates is mortal. Three elements characterize positivism. The first is confidence in mathematics as the medium in the search for truth. The second is the assertion that the observer can maintain objectivity. The third is the trust in reliability (Guba & Lincoln, 1994). Denzin and Lincoln (1994) cite four criteria of positivism: internal validity, external validity, reliability, and objectivity. Internal validity is the degree to which findings correctly map the phenomenon in question. External validity is the degree to which findings can be generalized to other settings similar to the one in which the study occurred. Reliability is the extent to which findings can be

replicated. Objectivity is the extent to which findings are free from bias (Denzin & Lincoln, 1994). Positivism is the basis for quantitative research methodology and Cartesian reductionism in much of contemporary biomedical practice and research (Engel, 1977). Postpositivism is an extension of positivism in its belief in the criteria for inquiry described above; however, based on the work of Karl Popper, postpositivism uses inductive reasoning toward the falsification of theory. One example of inductive reasoning and falsification can be found in the writings of Guba and Lincoln:

Whereas a million white swans can never establish, with complete confidence, the proposition that all swans are white, one black swan can completely falsify it. (Guba & Lincoln, 1994, p. 107)

Davies (1992) writes that modern inquiry has been strongly influenced by the work of Karl Popper, who argues that in practice scientists rarely use inductive reasoning in the way described. Conventional inductive reasoning is represented by the notion that an event that has occurred consistently will always occur in the same manner until proven otherwise. An example is the rising of the sun. If the sun has risen everyday for a hundred or a thousand years, it will continue to rise tomorrow and everyday. Inquiry has traditionally been based largely on logical positivism. The description of observed phenomena is based on criteria for validity, reliability, and objectivity. New discovery is contingent on the replication of previously observed phenomena, and objective observation—though reductionistic, is considered free

from bias through methodological procedures. Popper contends, however, that new discovery does not usually occur this way. According to Popper,

when a new discovery is made, scientists tend to work backward to construct hypotheses consistent with that discovery, and then go on to deduce other consequences of those hypotheses that can in turn be empirically tested. A powerful theory, then, is one that is highly vulnerable to falsification, and so can be tested in many detailed and specific ways. If the theory passes those tests, our confidence in the theory is reinforced. A theory that is too vague or general, or makes predictions concerning only circumstances beyond our ability to test, is of little value (Davies, 1992). In practice, then, the key to scientific advances often rests with free-ranging imaginative leaps or inspiration (Davies, 1992), rather than through positivistic claims to reliability, objectivity, and validity. (Davies, 1992, p. 28)

### **Critical theory**

As a social science paradigm, critical theory is essentially a critique of prevailing worldviews. Three critical theory perspectives are the ethnic, feminist, and Marxist critiques. These critiques present alternative views to prevailing grand narratives, serving as a forum for the often marginalized voices and experiences of ethnic minorities, women, and underprivileged groups based on class and gender. Critical theory and constructivism, with their relativistic ontologies (multiple views of reality) are representative of postmodernism.

The domination of social scientific thought by Cartesian philosophy and Newtonian mechanism has been readily apparent in biomedicine; however, over time challenges to the prevailing paradigm have caused a reevaluation of the chauvinism and zeal (Kuhn, 1977) associated with past successes in the eradication

of certain viral pathogens. Modern medicine has been unable to eradicate resistant strains of bacteria and control chronic and degenerative disorders, providing opportunity for newer critical perspectives in health care (Engel, 1977). Popper (1968) castigates the view that propositions about phenomena can be induced from observations about the world itself (Popper, 1968). Kuhn (1970) argues that we do not improve our knowledge of the world through systematic knowledge so much as shift our way of seeing the world. As a movement of the postmodern era, critical theory has represented this kind of shift. In the 1930s critical theorists began to question claims to value neutrality of social scientists. Central to the Marxist critique is the use of the Hegelian dialectic toward a synthesis of perspectives. Feminist and ethnic critiques have raised the marginalized voices of minorities and women through feminist and civil rights movements of the 1960s and 1970s. Cultural critiques have called for a reconsideration of statistical norms that form the basis for many treatment protocols. Mystification of medical questions and issues by scientists have facilitated the suppression of values in favor of technology. Feminist critics contend that traditional scientific accounts—long championed for their value neutrality—are saturated with androcentric biases (Gergen, 1992). Such biases are detected in the metaphors scientists use for the organization of findings, interpretation of factual data, study of topics, the selection of methods for research and the conception of knowledge (Habermas, 1981). Foucault (1979) participates in

this critique in his contention that matters of description cannot be separated from issues of power. As perspectives are developed and integrated into society, so are the social arrangements of the society altered. The development of newer perspectives and their integration into the society of health care translates into the need for new social arrangements of the society, with the accompanying resistance to change.

### **Constructivism**

Although evident in the writings of Kant, constructivism is a postmodern paradigm. Founded on the idea that humans actively create and construe their personal realities, the basic assertion of constructivism is that each individual creates his or her own representational model of the world through experience, which in turn utilizes structural relations to become a framework from which the individual orders and assigns meaning to new experience. Central to constructivism is the idea that, rather than being a sort of template through which ongoing experience is filtered, the individual's representational model actively creates and constrains new experience and thus determines what he or she will perceive as reality. The constructivist position maintains that all knowledge is constrained by the structure and function of the human nervous system and thus can be known only indirectly (Mahoney & Lyddon, 1988). In the social sciences, constructivism

represents the most viable challenge to Cartesian-Newtonian reductionist methodology (Mahoney & Lyddon, 1988).

### **Synthetic science: The quest for a complete theory**

Postmodern relativist ontology represents a threat to the apparent stability of tradition. One remedy for the concomitant anxiety is the development of synthetic approaches. Also known as meta-perspectives, synthetic theoretical approaches are evident in the form of unified theories. In reference to the development of a unified theory, Stephen Hawking writes the following:

If we do discover a complete theory, it should in time be understandable in broad principle by everyone, not just a few scientists. Then we shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason—for then we would truly know the mind of God. (Hawking, 1988)(Davies, 1992, p. 174)

No known theory represents all truth. The best of our theories represent the unfolding of truth as it can be known. The above quotation by Hawking represents scientific utopia at its grandest, the existence of a complete theory—understandable by philosophers, scientists, and just ordinary people. Perhaps a fantasy, this vision bespeaks the equipotentiality of scientific inquiry and health care as well. The present tension between biomedical and biopsychosocial approaches to health care reflect the yearning for a complete approach. One has to look only at the labels given the major approaches—biomedical, psychosocial, and biopsychosocial.

### **Scientific facts as constructed stories**

Kuhn (1970) writes that rather than accumulate, scientific knowledge may undergo metamorphoses of interpretation. Scarr (1985) contends that scientific facts are not discovered, but invented, and that theory guides inquiry through the questions raised, the framework of inquiry, and interpretation of results. Scientists, then, seek “facts” congruent with prior beliefs. Theories, writes Scarr, are stories constructed about relations among events. Perhaps the closest we may come to complete theory may be what Scarr calls consensual validation, which approximates what family therapists call social construction.

### **Medicine as paradox**

This section is about what this author calls the paradox of medicine. Medicine is a paradox in that while being classified as a social science, there is strong association with the “hard” sciences. In preparation for medical school, students are encouraged to study mathematics and related courses—physics, chemistry, algebra, calculus, and trigonometry. The practice of medicine is based on claims to mechanistic objectivity and sterile environments. Its approaches to research are reductionistic. Only recently have medical views begun to emphasize the organism as a whole person. In the case of contemporary health care, a paradigm shift is suggested. The prevalent view is represented by a dichotomy of hard v. soft sciences, promoting a separation between biomedical and psychosocial problems in

the form of a “division of labor” (Seaburn, Gawinski, Harp, McDaniel, Waxman, & Shields, 1983). This division is counterproductive; the best alternative theory may be a synthetic view—a view that synthesizes hard and soft sciences, biomedical and psychosocial views. This paper is based on the author’s assertion that science is synthetic, neither hard nor soft. Evidence for synthetic science exists in three principles commonly shared by both the soft and hard sciences, Bohr’s principle of complementarity, Heisenberg’s uncertainty principle, and the principle of cybernetics. Although they have their origins in the “hard” sciences, they are integrative views important to understanding reality within a postmodern framework (Becvar & Becvar, 1996). They are also important for the paradigm shift that has begun to occur in modern medical training (Engel, 1977).

A paradigm shift is represented by epistemological, methodological, and ontological shifts in relation to current and transitional views (Kuhn, 1977). From an epistemological perspective, the current biomedical view is supported by a modernist reality; it espouses a singular view of phenomena based on a grand narrative and universal laws. On the other hand, the transitional view is supported by a relativistic ontology and is therefore postmodern in its epistemological and methodological approaches to understanding phenomena.



### **The principle of complementarity**

The principle of complementarity is based on Niels Bohr's discovery of the dual nature of matter; on the atomic level, matter appeared as particle and as waves, depending on the situation (Nichols & Schwartz, 1991). The different descriptions of the same reality is a postmodern counter to a limited modernist ontology characteristic of biomedicine. The modernist view supports a singular reality. In medicine, for example, a biopsy may be interpreted as indicating the presence of cancer, with the result being a devastating pronouncement to the consumer; however, other lab results from the same culture may be determined to be negative. The occurrence of false positives is not uncommon. A number of extraneous variables may be the reason for the variance, among them the lack of reliability in interpretation by lab personnel. Although some practitioners don't mind a consumer's desire for a second or third opinion, it is the consumer who must request (and pay for subsequent tests). For the most part, biomedical practitioners appear to have great confidence in first findings. The suggested shift is a recognition of the mathematical probability that a number of cultures may be read differently by different labs and/or their personnel. This variance of views is the basis for an ontological paradigm shift and the acknowledgment of different views of the same reality.

### **Heisenberg's uncertainty principle**

Heisenberg's uncertainty principle posits that attempts to measure quantifiable objects on a subatomic level increase uncertainty. At this level, quantifiable objects are measured in pairs (e.g., position and momentum, energy and time). Attempts to measure one aspect (position) increases uncertainty in the second aspect—momentum (Davies, 1992). Methodologically, this certainly applies to modern medicine. In spite of the availability of powerful state-of-the-art technology, chronic illness is continually on the rise; furthermore, the discovery of new antibiotics and medications has failed to stop the development of resistant strains of infectious agents. Attempts to control microbial agents has resulted in the development of more virulent strains—to the end that we now live in fear of a strain resistant to all modern attempts to eradicate it. Scarr (1985) asserts that interventions must be context driven. What modern medicine has done is amplify the proverbial cybernetic feedback loop by applying “more of the same.” In the past, antibiotics were effective against bacteria. The traditional thinking (and practice) is the more applied, the more effective the antibiotic, but the same intervention is not always effective. To use Hume's language, necessary connection does not exist in the world as we now know it, only in the minds of modernist practitioners. The successes of the past were for that time. Modern attempts to “measure” or control

the spread of natural processes has increased the uncertainty of other processes, thus indicating the need for a paradigm shift on methodological terms.

### **The principle of cybernetics**

Cybernetic epistemology is important to the development of scientific and medical knowledge. Cybernetics is important for its emphases on processes, such as entropy and negentropy in feedback loops. Modernist approaches to biomedical science has been static in its view of chronic and terminal illness. What is known about pathological processes influences greatly the responses we have to them. The significance of new emphases on processes has made the topic of tumors and cancers much easier to talk about between doctors and their patients. The relationship of healing is much more positive as well. Many tumors were formerly considered inoperable, but that has changed radically with the development of angiogenesis research geared toward cutting off the supply of blood vessels that feed them. Other diseases have been treated more successfully by manipulating the flow of blood to vital organs. A result is that physicians can talk about hope with patients after cancer diagnoses. Also, cybernetics encourages scientists to move into the therapeutic circle rather than maintain distance and the pretentious posture of nonbiased objectivity. Due to these methodological and epistemological changes, the foundation of healing for both the biomedical and psychosocial therapist has been enhanced.

Also, the concept of circular feedback does much to inform our understanding of causality (Becvar & Becvar, 1996). Although caution is advised when causation is suggested, a particular factor may be said to contribute to the development of a condition. It can also be said that the presence of two connected events may infer cause, but caution is recommended about taking this inductive leap. It is more prudent to talk about mathematical probability and correlation between psychosocial factors and organic illness, however. One could also agree with Johnson (1987) that no one paradigm of pathogenesis—circular or linear—is universally applicable. Cybernetics of cybernetics makes use of the “both—and” rather than “either—or” frame of reference. Cybernetics of cybernetics moves the physician from nonbiased observer to participant in therapeutic processes. A position within the healing environment affords the vantage point of “seeing” the most appropriate intervention—the meta-perspective, whereas the illusion of remaining distant and nonbiased may prove counterproductive. In summary, cybernetics informs medicine in two ways. The first is the focus on dynamic as opposed to static processes. Body processes are dynamic and contextual. Secondly, cybernetics of cybernetics informs science about the position of the observer, setting up the environment for second order intervention, liberating the practitioner from pretentious objectivity and nonbiased intervention. Cybernetics contributes to the concept of a paradigm shift on epistemological terms, influencing how we know what we know about

phenomena, as well as adding to our understanding of the relationship between the knower and the phenomena under consideration.

### **The Research Question**

At this point it seems prudent to restate the original question. Do the symptoms of physical illness begin as internal physical etiology only? Or are they the result of stressful situations (e.g., relationships) that tend to go unresolved or treated over time? The answer might be that both are valid. The former is largely positivistic and biomedical; the latter is a biopsychosocial, postmodern perspective on illness. Sometimes illness begins as internal physical etiology. Sometimes it is the result of stressful situations such as relationships that have been left unresolved over time. At other times, internal physical problems may be exacerbated by stressful relationships or other psychosocial factors left unchecked over time.

### **Assumptions**

This investigation is based on several assumptions: (1) science is synthetic; (2) postmodern rather than positivistic assertions are put forth; (3) theories are constructed stories. First, the reality of contemporary social science is that “soft” and “hard” sciences meld together to forge a stronger science, a synthetic approach that freely borrows from either or both realms, with the end being that traditional “truths” lend support to new findings, or grounded theory. Secondly, postmodern tenets are observed, namely that our descriptions of subject matter are not grand

narratives based on universal properties or laws; no assertions are put forth regarding the primacy of methodology or the assurance of progress through research (Gergen, 1992). Although rigor is observed, positivistic assertions about validity, reliability, or objectivity are minimized. Gergen (1992) makes the point that psychology that makes modernist claims is dead. The point of departure for a new psychology is a tenuous subject matter, the marginalization of methodology, and the abrogation of the need for a grand narrative in regard to findings (Gergen, 1992). The writer posits that such tenets are of necessity void in the exploration of new theory or unexplored phenomena. As Popper (1968) writes, new scientific discoveries are not necessarily made in the way traditionally expected. No attempt is being made to verify or prove anything; rather, the author suggests a paradigm shift on methodological, ontological, and epistemological grounds (Kuhn, 1970) be considered for understanding health care in the postmodern context. Thirdly, the goal is the development of new theory or constructed stories and interventions driven by the postmodern context (Scarr, 1985).

## **LITERATURE REVIEW**

Physical illness is often psychosomatic, a point supported later in this presentation. Somatization may be precipitated by stressors connected to relationships—family, marital, and otherwise. The following review of literature is an analysis of psychosocial factors associated with physical illness in the form of somatization, its exacerbation through marital and family relationships, and approaches to treatment.

### **Psychosocial Factors**

The term psychosocial emphasizes the importance of environmental, social, and behavioral factors in relation to disease and illness (Jonas, 1979; Cohen & Brody, 1981). Edward T. Creagan, M.D., (1987) oncologist at Mayo Clinic, refers to the importance of psychosocial factors such as social ties, marital history, general satisfaction with life, and hopelessness and happiness in the treatment and recovery of cancer patients. Others (Christ & Flomenhaft, eds., 1982) characterize psychosocial factors as being important to overall health. In DSM-IV, nine categories of psychosocial and environmental stressors are detailed. Wolkenstein and Butler (1998) cite a detailed list of important psychosocial issues: age, race, gender, family structure, life cycle, normative and transitional life events, coping strategies, impact of immediate and extended family upon patients, effects of illness upon patients'

activities of daily living, quality of life, and cultural and subcultural reference groups, proposing that these are involved in every patient encounter.

Maxmen and Ward (1995) provide a biopsychosocial formulation commonly used for psychiatric assessments, but the model is limited in its design as a biomedical assessment of psychosocial issues. Gergen (1992) posits the primacy of a vanishing subject matter over a basic subject matter that can be known, a premise that forms a basis for the development of an assessment that is qualitative and ethnographic, eliciting a thick description of patients' experiences of illness, from the first awareness of stress and symptomatology to recovery, or mortality.

### **Physical illness**

Physical illness is a corporal manifestation that some apparently organic perturbation has occurred in the organism. The origin of physical illness can be organic, but the illness may turn out to be psychosomatic. The etiology and pathogenesis of symptoms are important when studying psychosomatic illness.

### **Somatization**

Important to the discussion of somatization is its definition and prevalence. Two useful definitions of somatization have been suggested. The first is Willi's definition of it as any organic illness or symptom which has psychological causes.

In a specific sense, the term denotes illnesses involving organs, particularly certain types of gastrointestinal ailments such as duodenal ulcers or ulcerative colitis, but also bronchial asthma, eczema, dermatitis, primary chronic polyarthritis, and hypertension. In a more



general sense, the term encompasses more common vegetative and regulatory dysfunction such as migraines, palpitations, constipation, insomnia, menstrual disturbances, sexual problems, obesity, anorexia nervosa, and nervous breakdowns. (Willi, 1982, p. 194)

Glasser (1984) calls psychosomatic illness a “creative process, including any chronic illness for which there is no known physical cause and no specific medical treatment .”

### **Prevalence of somatization**

The prevalence of somatization in American health care settings is remarkable. As many as 75% of all patient visits in primary care practice can be attributed to psychosocial problems that present through physical complaints (Roberts, 1994), with somatization disorder having been identified as the fourth most common diagnosis encountered in primary care (DeGruy, Columbia, & Dickinson, 1987). As many as forty percent of all patients in a typical family practice have somatoform disorder (Smith, Miller, & Monson, 1986). Research on the incidence of somatization appears limited or nonexistent, but the prevalence of somatization in this society is great motivation for increasing knowledge about the relationship between psychosocial factors and physical illness.

### **Etiology**

Etiology refers to the origins of a disorder, whereas pathogenesis refers to all the mechanisms that ultimately produce it—its course of development (Maxmen & Ward, 1995). Psychological factors play a role in the etiology and progression of

infectious diseases (Cohen & Williamson, 1991). Stress and other psychological factors have been found to be important in the onset and progression of acquired immunodeficiency syndrome (Baum & Nesselhof, 1988; Kiecolt-Glaser & Glaser, 1988). Antonovsky (1979) proffers the concept of "host resistance." According to this view, many exogenous and endogenous factors patterned over time determine whether a particular disease will occur in a particular organism. Although some infectious agents almost always produce a disease state, most fail to do so because a particular organism at a particular point in time may be capable of withstanding the disease's assault. Thus, disease may be said to occur "by courtesy" of the host organism. Weil (1972) asserts that germs do not merely attack the body but that something happens in the person that permits a breakdown of the normal harmonious balance between the body and the microorganisms surrounding it.

When exposed to an infectious agent, only a proportion of people develop clinical disease (Cornfeld & Hubbard, 1964; Fernald, Collier, & Clyde, 1975); moreover, severity and duration of symptomatology vary widely among those who do become ill. At least 50% of all morbidity and mortality encountered by physicians can be traced to behavioral origins (McGinnis & Foege, 1993). The other proportion may be related to genetic and environmental predisposition, while a number of others develop from unknown or uncertain etiology. Some determined to be of behavioral origin may be due to injuries, substance abuse/dependence, self-

medication, and neglect of care (Boss, 1994), further reducing the number that can be attributed to internal etiology. Neglect of care may be represented by dehydration, unsafe sexual practices, unsafe hygienic practices, or the failure to seek medical help for an obvious physical infirmity.

Chronic illness, closely related to psychosocial and behavioral factors, is the nation's overwhelming health problem (Wickramasekera, Davies, & Davies, 1996). Chronic illness can result from viral infections, but it may also result from complications related to the failure to seek help for acute symptoms or stress reactions (Cohen & Williamson, 1991).

Genetics also plays a role in the development of illness. Development is change, and illness falls into the categories of change in the life of an organism. Lerner (1978) argues that the nature-nurture controversy is central to the study of human development. Lerner's developmental contextual theory of dynamic interactionism, associated with the concept of probabilistic epigenesis, stresses that organism and context are always embedded each in the other (Lerner, 1978). Probabilistic refers to the timing of organism-context interactions in the determination of the nature and outcomes of development (Scarr, 1982).

### **Pathogenesis**

The course of illness begins with an awareness of preliminary stress(ors) and the progression through a constellation of symptoms to recovery or death. The

awareness of symptoms becomes a major motivation for seeking medical assistance or developing coping strategies (Cohen & Williamson, 1991). Stress contributes to the development of physical symptoms, but social processes along the way may also influence biological changes.

### **Social process and brain adaptation**

Social processes are powerful factors for influencing development. Biological changes may occur due to psychosocial origins (Maxmen & Ward, 1995). For instance, psychosocial stress has been demonstrated to alter the brain's anatomy and biochemistry to cause anxiety in marine life (Kandel, 1983). Maxmen and Ward (1995) contend that the brain does not mature independently of the environment and that it continues to be influenced by the environment. Evolutionary epistemology posits that the brain adapts to environmental as well as social processes, and adaptations by the brain influence physiological changes in the species over time:

Each human possesses at least four partially independent brains with their own subsystems and processes. First, the reptilian complex in the brain stem regulates basic life support processes and primitive patterns of survival. Secondly, the paleomammalian brain, or limbic system, emerged with the appearance of mammals and is associated with basic emotional processes and powerful refinements of survival-relevant behaviors. Thirdly, the neocortex is thought to have proliferated with unprecedented speed in the higher primates. Finally, the shift that occurred when humans shifted from quadrupedalism to bipedalism further differentiated (or specialized) hemispheric lateralization (Jantsch, 1980). The result is a highly complex matrix of organization that is simultaneously hierarchical (vertical) and heterarchical (horizontal) in nature. (Mahoney & Lyddon, 1988, p. 204)

Social relationships are psychosocial factors which led to brain evolution, and changes in the brain affecting the development of social patterns influenced further brain evolution as well as other physical processes (Lerner, 1986).

### **Awareness of symptoms**

Seaburn, Gawinski, Harp, McDaniel, Waxman, and Shields, (1993) reported that the typical patient admits to having multiple psychosocial problems and at least one physical problem. The available research does not indicate clearly if psychosocial problems developed after physical symptoms or vice versa; this is a question for future research. What is evident is the existence of co-morbid disorders, indicating symptomatology may exist prior to the person's awareness of them.

### **Seeking help**

Awareness of symptoms does not appear to be sufficient motivation for seeking help. According to Cohen and Williamson (1991), seeking medical care involves both defining a constellation of symptoms as an illness and deciding to seek care. One symptom may not be sufficient motivation for seeking care. Stress, a sometimes early indication of illness, may be the first symptom remembered about the course of illness. The symptom bearer may, however, tend to overlook its potential relationship to the development of physical illness; this denial may subsequently result in unreported and underreported symptoms. Many people who

have symptoms choose not to seek help; in fact, the people who do not seek care may be as ill as those who do (Cohen & Williamson, 1991).

### **Stress, anxiety, and depression as mediators to physical illness**

Stress can precipitate the development of physical symptoms. Anxiety and depression may be mediating variables in the illness process. Seaburn et al. (1993) reported that 62% of patients in primary care settings present with stress, while 65% of patients present with depression. Stress has been documented to contribute to the development of physical illness. In cases of infectious disease, stress may influence immunity either through direct innervation of the central nervous system (CNS) and immune system (nerves terminating in lymphoid organs), or through neuroendocrine-immune pathways (release of hormones) (Cohen & Williamson, 1991). Stressors are known as negative life events and negative affective states. Distress arises when imposed demands are perceived to exceed the ability to cope (Lazarus & Folkman, 1984). Stressors are generally thought to influence the pathogenesis of physical disease by causing negative affective states (such as anxiety and depression), which in turn exert direct effects on biological processes or behavioral patterns that increase disease risk (Cohen, Evans, Stokols, & Kranz, 1986).

### **Marital and Family Relationships**

Marital and family relationships provide an important context for physical as well as mental illness. Much of the available research on psychosocial factors associated with physical illness in relationships focuses on: (1) the impact of illness on couples' relationships (Rolland, 1994); (2) the impact of illness on caregivers (Blanchard, Albrecht, & Ruckdeschel, 1997); (3) the psychosocial adjustment to illness (Brecht, Dracup, Moser, & Riegel, 1994), and (4) the influence of illness on family functioning (Cannon and Cavanaugh, 1998). The focus of this paper, however, is on psychosocial factors in relationships associated with the development of illness. The dearth of research into this specific area makes any research exploratory, but more research is expected with the continued development of medical family therapy, collaborative family health care, and biopsychosocial approaches to health care. Worthy of attention are family dynamics, symptom development in families, and symptom function in families.

#### **Family dynamics and symptom development**

A marital relationship is a couple dyad or subsystem. The context of family relationships is of course broader; there is the couple dyad, the dyad in relation to the children, one parent in relation to children, members of the marital subsystem in relationship to each other, and other combinations such as one or both parents in relation to extended family members, in-laws, parents, and grandparents. Some of

the early work in understanding the development of pathology in families included studies on schizophrenia in families at Palo Alto and the MRI project on schizophrenia. Theodore Lidz cited two types of marital discord--marital schism and marital skew--for their negative impact on children (Becvar & Becvar, 1996). Marital schism is open conflict in families, and marital skew is a pathological balance of power in the system. Marital schism and marital skew involve serious pathology in one marital partner who dominates the other, laying the groundwork for depression, anxiety, and stress, and subsequently psychosomatic illness (Becvar & Becvar, 1996). Bowen observed schizophrenic patterns in relationships between mothers and children, blaming undifferentiated family ego mass for pathological patterns. Lyman Wynne linked schizophrenia to the family (Becvar & Becvar, 1996). Much of the early research focused on communication patterns and schizophrenia, but much of it was abandoned because of a backlash protesting that mothers were being made scapegoats for pathology that was not their faults. Some of this research had a functionalist emphasis, reporting that symptoms served some function in families (Nichols & Schwartz, 1991).

Doherty and Baird (1983) believe family dynamics may have a role in the development of illness in family members. Of the psychosocial problems reported in primary care settings, 43% of the cases present with upsetting family relationships (Seaburn et al.). Family stresses have been related to the occurrence of a variety of



illnesses (Haggerty & Albert, 1967). Weakland, Fisch, Watzlawick, and Bodin (1974) assert that problems develop from situational differences between people—problems of interaction. Within this context adaptation to life changes and mishandling everyday difficulties are seen as important to symptom development. Problems also develop because of the way everyday difficulties are handled. For example, intimacy can be compromised when one partner blows an ordinary difficulty out of proportion and the other partner treats it as if it were no problem at all (Weakland et al. 1974). Willi (1982) concluded that collusive relationships result in a feedback loop which keeps people stuck, resulting in the development of a psychosomatic illness in one member of the dyad (Weakland et al.). Willi (1982) further asserts that organic symptoms are often precipitated by stresses and collusion in family systems. Minuchin, Rosman, & Baker (1978) found four patterns in psychosomatic families: enmeshment, overprotectiveness, rigidity, and lack of conflict resolution.

### **Symptom function**

Lyddon (1987) says that symptoms have a regulatory function. This view sees symptoms as healthy and adaptive or unhealthy and maladaptive. Adaptive symptoms play a central role in systemic self-regulation. Disease, therefore, may be a healthy response by the organism to regulate itself. Rather than being random disorders, symptomatology may actually serve some ordering function for the

evolution of the human species and nature in general (Lyddon, 1987). For marital relationships, the symptom becomes a plea to society to help free couples from collusive entanglement (Willi, 1982). Illness can also bring a couple together as well as highlight lack of intimacy between them (Willi, 1982). Symptoms may also be maladaptive. Disattention to symptoms is unhealthy and will produce disregulation (e.g., chronic pain) in those responses that are actively ignored (Schwartz, 1984). Stress is a factor in the formation of illness, but when symptoms are ameliorated in one person, the spouse may develop anxiety or even depression about new levels of relating (Willi, 1982).

It is not being suggested that psychosocial factors cause illness, but a temporal-sequential association is being inferred. Rosman and Baker (1988) reject the idea that psychosocial factors cause illness; rather, they offer the idea of mutual accommodation between the system's rules and the individual's predispositions and vulnerabilities, a collusion between family and a predisposed individual. It is suggested that symptoms of physical illness develop in the context of relationships that are collusive, skewed, discordant, and otherwise dysfunctional. Future research on the function of psychosocial factors in relationships will likely require longitudinal studies that examine patterns of relating and their correlation over time with the prevalence and incidence of physical illness.

## **Assessing physical illness for relationship to psychosocial factors**

### **Biopsychosocial assessment and treatment**

The biopsychosocial approach to health care has strong relations to systems theory in that it provides for a unifying, metatheoretical framework for integrating biological, psychological, and social approaches to health and illness (de Rosnay, 1979; Miller, 1978; von Bertalanffy, 1968). The biopsychosocial model proposes that medical diagnosis should always consider the interaction of biological, sociological, and social factors in order to assess a person's health and make recommendations for treatment. Biopsychosocial assessments allow for the clinician to tailor therapies to the individual more effectively, the result being that diseases can be considered not in isolation, but in interactional contexts; therefore, recommendations can be made that may apply to two or more problems simultaneously, with at least one of the problems being psychosocial. Clinicians can look for treatment interactions across modalities that could have additive and possible synergistic effects. The biopsychosocial approach more effectively stimulates common theories and research designs, facilitates interdisciplinary thinking and research, and encourages greater synthesis among numerous variables; it also has the potential to establish a more effective, multicause, multieffect, approach to health and illness (Schwartz, 1982).

Biopsychosocial assessment differs from biomedical assessment in that it assesses for psychosocial as well as biomedical factors. The biopsychosocial interview takes significantly longer than the biomedical assessment, which may be brief due to systemic demands on the physician's time. Questions are asked about the etiology of the current illness, but attempts are made to connect symptoms to precipitating factors or events in the person's life. Also important are contexts in which symptoms may develop or be supported and interactions between persons or symptoms. Assessment is designed to provide more information about factors in the person's life that may provide positive feedback for symptom development.

### **Ethnographic assessment**

Maxmen and Ward (1995) suggest that many patient treatments are done without formal assessment or diagnosis. Without a thorough assessment, clinicians fail to get all the information that can be provided by the patient. In a study by Calhoun, Woolliscroft, and Beauchamp (1985), two groups of medical students were trained in different approaches to assessment. One group ( $N = 56$ ) received the biomedical curriculum; the second group ( $N = 63$ ) were trained in a biopsychosocial curriculum. Students who received the biopsychosocial curriculum were significantly more skilled in identifying, documenting, and translating patients' psychosocial data and predisposing risk factors than students receiving the biomedical curriculum (Calhoun et al. 1985). The biopsychosocial curriculum produced students whose

assessments focused on the utility of the medical history for hypothesis-generation and testing, clinical problem-solving, identification of risk factors, and the recognition of important psychological, social, and environmental parameters which should be identified for each patient (Calhoun et al.). Leigh and Reiser (1980) suggest the use of a Patient Evaluation Grid (PEG) for the collection and organization of information. The PEG solicits data from biological, personal, and environmental dimensions associated with current, recent, and background contexts in the patient's life. Leigh and Reiser (1980) suggest that physicians trying to think systemically may sometimes miss key details when attempting to focus on the larger picture. Due to their training or to systemic demands, it may be that physicians are not able to gather the appropriate data from patients (Leigh & Reiser, 1980). If the physician cannot, the interview can be done by a Ph.D. level clinician, using an ethnographic assessment interview format. The Patient Evaluation grid attempts to obtain information about the psychological (personal) and social (environmental) dimensions relevant to a person's problems. Some examples of social factors include asking about developmental factors, early experience, recent illness, occurrence of symptoms, personality change, adaptation and defenses, and expectations about illness and treatment. Environmental or social dimension grid items would include supportive person(s), life changes, contact with ill persons,

contact with doctor or hospital, early physical environment, cultural and family environment, and early relations (Leigh & Reiser, 1980).

Where language exists, there exists also the recognition of the issue of power, as language represents the medium for the maintenance and transference of power in micro and macro-sociological contexts. Language has the power to oppress (Foucault, 1978, 1979). Gergen cites Foucault for his assertion that matters of description cannot be separated from issues of power (Gergen, 1992). Power is an important dynamic in health care assessment. An ethnography is a qualitative research method rooted in anthropology that attempts to describe people's perceptions of meanings and events within the context in which they take place (Agar, 1986; Spradley, 1979). Rather than form questions that will largely predetermine the answers, this approach generates hypotheses from participants' "rich descriptions." An ethnography requires that investigators learn from people as "informants" rather than as "subjects" (Spradley, 1979). Unfortunately, the attitudes and belief systems of physicians are determined well before they begin medical training, and their education serves to reify technological assessment of physical illness. In addition to placing limitations on the physician's understanding of the cause, course, and treatment of disease, the biomedical model may also serve to depersonalize the practice of medicine and encourage the doctor to neglect the patient's subjective experience (Silverman et al.). Studies have consistently

revealed that the biomedical model is so ubiquitous that even when suggestions are made that students consider psychological and social factors, the tendency to examine and monitor biological factors is difficult to extinguish. It seems reasonable that in formulating a patient's diagnosis and planning for treatment, consideration of psychological and social variables critical to the onset of acute physical distress as well as the patient's ability to comply with diagnostic studies and life-sustaining therapies is indispensable (Silverman et al.). In gist, Silverman et al. and Engel (1977) contend that in contemporary biomedical settings assessment will continue to be overwhelmingly biological.

### **Ethnographic interviews**

Ethnographic interviews are designed for eliciting and recording salient data about the participant's experience of illness, assessment, treatment, and recovery. Thick description is important to the development of grounded theory for the continued evaluation of the practice of health care; furthermore, qualitative data are also amenable to rigorous research into the effectiveness of treatment.

### **General Guidelines for Psychosocial Assessment**

This paper makes three major assumptions regarding psychosocial assessment. First, the synthetic nature of science infers that psychosocial factors are influenced by biological ones, and biological factors are influenced by psychosocial ones. Secondly, somatization occurs through state-dependent learning

(Rossi, 1993). Psychosomatic symptoms are the bodying forth of physical patterns “learned” by the body and the brain, in much the same way that children who have witnessed domestic violence in their homes learn patterns of relating from their witnessed experiences. In research into the experience of such children, Reiss (1989) makes the distinction between “witnessed” and “lived” experience. These children often witness as well as live conflict with no opportunity to verbalize and process the experience; therefore, they are at particular risk for incorporating such behavior into their own “representations” of relationships and repeating conflict patterns over time, both within the family and in other intimate relationship contexts (Reiss, 1989). A third assumption of this treatise is that somatization occurs in the context of relationships. Barnes (1999) talks about the “carrying forth of patterns” in relationships. The basic idea is that unresolved or undeconstructed experience is relived in family contexts as long as they are unresolved. The above assumptions result in the proposition that somatization is state dependent and relationship based. The state dependent context is the context through which it is learned, and the relationship context is the context through which it is perpetuated. If somatization is dependent on the above contexts, then assessment for psychosocial factors related to physical illness might consider personality, family functioning, etiology, and pathogenesis.



## **Personality**

Personality, or character, refers to a person's long-standing, deeply ingrained patterns of thinking, feeling, perceiving and behaving (Maxmen & Ward, 1995).

Personality traits are prominent behavioral features and not necessarily pathological. Personality disorders exist when personality traits are so excessive, inflexible, and maladaptive that they cause significant distress or impairment (Maxmen & Ward, 1995). Certain personality disorders are associated with the increased use of health services (Denton, Reynolds, Burleson, & Anderson, 1999). Introverts, isolates, and persons lacking social skills may be at increased risk for both illness behaviors and pathology (Cohen & Williamson, 1991). Clients with personality disorders, because of their rigid, inflexible patterns of behavior, have a consistent propensity to create psychosocial stressors and then to have maladaptive responses to the stressors (Everly, 1989). Persons with personality disorders occasionally experience anxiety or depression as part of the disorder (Fong, 1995). DSM-IV groups the personality disorders into Clusters A, B, and C based on a descriptive, atheoretical approach, placing together disorders or traits that have shared features (Fong, 1995). Clients with personality disorders or traits in Cluster A are characterized as "odd or eccentric" and are recognized by their lack of relationships, restricted affect, and peculiar ideas (Siever, 1992). Individuals with a personality disorder in Cluster B will be emotional and attempt to make an

impression on the counselor. This grouping is characterized as dramatic and are known by erratic, unstable behaviors, chronic difficulties in interpersonal relationships, and heightened and labile affect (Turkat, 1990). The personality disorders in Cluster C are thought to be the least disruptive of adaptive functioning (Paris, Frank, Buonvino, & Bond, 1991), and have been the least investigated. Clients in this cluster are known as anxious-avoidant, and they usually suffer impairment by their rigid attempts to meet all demands by passively enduring, changing self, or withdrawing. Individuals with personality disorders are particularly vulnerable to stress-related syndromes (Everly, 1989). Clients with Cluster B and C disorders are particularly vulnerable to autonomic nervous system symptoms, cardiovascular problems, and gastrointestinal symptoms (Everly, 1989).

Willi (1982) writes about relationships where the welfare of one partner is affected by the presence of certain personality traits. Couples under stress tend to open their boundaries to include a third person for the purpose of having an ally to maintain collusive struggles. Psychosomatic symptoms may play the role of the third person—the ally. Willi calls psychosomatic illness “an extraordinary step taken to restore balance in the relationship” (Willi, 1982). Somatization causes a change in the nature of the dynamics of interaction of the couple. Narcissistic traits involve sacrifice of the self (of the partner) for the sake of maintaining collusive patterns. Narcissistic collusion is characterized by regression fantasies, the need to injure and

hurt one another in order to avoid becoming one, a process that results in desynchrony. Projective identification and introjection are important processes for maintaining such relationships.

### **Family functioning**

Smilkstein (1984) suggests that an assessment of family functioning is relevant to medical treatment, especially in patient problem areas such as somatization, high utilization, multiple complaints, and chronic pain. This assessment would provide the following benefits: 1) the physician may be able to anticipate illness behavior and initiate preventive measures; (2) to assist in anticipating compliance and evaluating available resources for aiding in compliance; (3) document life events and pinpoint stressors that may affect treatment; and (4) actively intervene and provide outside referral for psychosocial problems. Smilkstein (1978) developed the family APGAR for the assessment of family functioning. The APGAR is designed to measure adaptability, partnership, growth, affection, and resolve in family members.

McGoldrick & Gerson (1985) promote the genogram for use in indicating previous illnesses or symptom patterns and facilitate early detection of a problem and preventive treatment of family members at risk.

Also important to assess are the stages of the family development. Weakland et al. suggest that problems are an outcome of everyday difficulties related to normal transitional steps in living. Some of these normal transitional steps include:

the change from the voluntary relationship of courtship to the commitment of marriage; the transition from marriage to the less reversible commitment when the first child is born; the sharing of influence with other authorities required when a child enters school; the child and his peers in adolescence; the shift from a child-oriented marital relationship back to a two-party system when the children leave the home; the intensification of this shift at retirement; the return to single life with the death of a spouse. (Weakland et al. 1974, p. 148)

In light of the conclusion by Minuchin and colleagues (1978) that the psychosomatic family is characterized by enmeshment, overprotectiveness, rigidity, and lack of conflict resolution, assessment for these are suggested. Olson's Circumplex Model of Marital and Family Systems can then be used to assess for family cohesion, adaptability, and communication.

### **Assessment of etiology and pathogenesis**

Maxmen and Ward assert that a diagnosis should reflect the etiology and pathogenesis of a disorder; furthermore, a diagnostic category should indicate whether the disorder consistently runs in families, is genetically transmitted, initiated by psychosocial forces, or aggravated by specific biological and environmental conditions (Maxmen & Ward, 1995). These assumptions apply to both biomedical and psychosocial disorders, although the terms etiology and pathogenesis have traditionally been characteristic of biomedical disorders assumed to be organic.

In their definition of psychopathology as the manifestation of mental disorders, Maxmen and Ward (1995) maintain that mental disorders must produce clinically significant impairment or distress in one's personal, social, or occupational life, inclusive of biological changes; therefore, they distinguish between biological and psychosocial factors. Biological factors primarily cause symptoms, whereas psychosocial factors primarily determine issues. In reference to treatment, biological therapies are used to treat biological symptoms, and psychosocial therapies are used to treat psychosocial issues (Maxmen & Ward, 1995). Some disorders represent those in-between categories where a combination of biological and psychological causes are inferred. Such cases concern disorders that may stem from psychosocial issues or problems-in-living left unresolved or mishandled in some way, and these may ultimately manifest as biological symptoms.

Psychiatrists, psychologists, marriage and family therapists, and other mental health professionals are not as likely to be concerned with etiology in its truest sense, primarily because the DSM-IV is more concerned with descriptive rather than etiological categories (DSM-IV, 1994). Where interest exists, mental health clinicians are, of course, more interested in the etiology of mental than physical disorders. There may be some agreement that the etiology of many mental disorders is of unknown cause, but this may also be true of many physical disorders. One of the major goals of this dissertation is to encourage health care professionals to begin to

think more about etiology for assessing physical as well as mental disorders (Maxmen & Ward, 1995). The likely discovery is that many apparently physical illnesses may prove to be nonorganic in origin. Creagan (1997) agrees in his statement that a disorder may appear to be organic, but its etiology may have started from a psychosocial stressor (Creagan, 1997).

### **General Statement of the Problem**

A man in his early forties is admitted to the emergency room after passing out for undetermined reasons. A technological assessment (CT's, CAT scans, MRIs) reveals no reasonable explanation for the brief loss of consciousness. Physicians are even more concerned when the patient admits to this being the fourth loss of consciousness over the past year, but this discovery is not made until after the assessment. A congenital heart condition (history of heart murmur and diagnosed congestive heart failure) is sufficient reason for continual cardiac monitoring, and observation is ordered for the duration of hospitalization. After being advised by the patient's physician that he has gall stones, the patient requests another four days from the insurance provider for surgery he has been told is needed. "The operation will be needed sooner or later," says the physician. Attention is therefore turned to the pending surgery, distracting attention away from the original reason for hospitalization. Blood pressure checks, medication, blood oxygen levels, and heart monitoring are ordered to continue. This is typical of the biomedical approach.

Silverman et al. found that attending physicians, medical students, and teachers in biomedically oriented programs consistently chose to order more technological assessments rather than ask for more information from their patients or patients' families.

In the case under consideration, medical doctors knew that their patient worked a stressful job, smoked cigarettes, and had suffered from a congenital heart ailment and congestive heart failure, for which he was under medical care for the past year. What they do not determine (because they do not ask) is that he did not rest for more than three hours over the 48 hours before his episode, and his diet is insufficient for his health and stress levels. Also, the patient had decided the night before that he must move from his current residence and away from a relationship that he finally realizes is a source of great stress. He decided it was time to move out, and this decision was evidently a source of great conflict for him.

The contemporary practice of health care consists of a biomedical approach that assumes illness to be organic. An alternative biopsychosocial approach assesses for the impact of psychosocial, environmental, or psychological factors as well. The biomedical perspective tends not to give consideration to the impact of personality, beliefs and belief systems, psychosocial and environmental factors (bad relationships included) toward the development of illness. In the above example (an actual case), physicians appeared oblivious to psychosocial information readily

available to them. A biopsychosocial approach would have allowed for the biomedical assessment, but after finding no reasonable explanation (the primary physician's admission) for the loss of consciousness episode (LOC), attention would have been turned to the psychosocial stressors readily available had inquiry been made. Instead of expensive medication, blood pressure checks, heart monitoring, and continued hospitalization (not to mention the expense of surgery for unrelated complaints), psychotherapy might have been recommended. In this case relationship therapy would have been the most appropriate modality.

### **Biomedical assessment**

The medical assessment, consisting of the patient's medical history, a physical examination, and laboratory tests, is designed to detect medical causes for psychiatric symptoms, to identify physical states that may alter how medications are prescribed, to discover previously undiagnosed medical diseases, to discover substance abuse or self-medication, and to monitor blood levels for psychotropic or foreign agents (Maxmen & Ward, 1995).

### **The physical examination**

A physical examination is part of the biomedical assessment. Smith (1994) details the physical exam, which may begin with questions about the patient's family and personal history, and a history of current symptoms. The exam proper will include a check of temperature, general appearance, weight, blood pressure, pulse and



respiration, and examination of the head, face, neck, and upper trunk, and abdomen, with a pelvic exam for women, and rectal exam and whatever else may be relevant and of concern. This does not include preventive screening (Smith, 1994). This exam structure is typical, and it emphasizes physical symptomatology, to the exclusion of any questions about psychosocial issues that may have been premorbid to the physical symptoms.

### **Rationale for the Study**

The preceding clinical case and review of literature are indicative of the rationale for the present study. A review of the literature indicates a dearth of research into the relationship between psychosocial factors and physical illness. Furthermore, validated instruments for assessing somatization appear to be nonexistent. Finally, given the prevalence of somatization and somatoform disorders in the population seeking health care, the development of an assessment instrument to assess these illnesses is long overdue. To address the above stated problems, the goal of the present study is to suggest a relationship between psychosocial factors and physical illness. Secondly, the present treatise is rendered as a pilot study of the nature and types of relationships existing between certain factors or variables and physical illness. Thirdly, the suggestion is being put forth that analyzing the relationships between psychosocial factors and physical illness is

preliminary to the development of an instrument for assessing physical illness due to psychosocial factors.

## **METHOD**

### **Sample**

This study is an survey of persons who have been treated for physical illness in the past five years. These persons will have been patients or consumers of health care due to hospitalization or visit to a health care facility licensed in one of the fifty states. Participants were randomly selected from shopping malls, churches, and public housing locations in a metropolitan city in the southeastern United States. Over a period of eight weeks, subjects at the above locations were approached by the researcher or an assistant and their participation solicited. The initial question upon approach was "Have you been treated for a physical illness in the past five years?" Those who responded in the affirmative were invited to complete a questionnaire. Prospects were given a number to call and make an appointment at one of three offices in south, north, and central parts of the metropolitan area. Nine assistants were trained in the administration of the survey. The training lasted for three hours and was completed in one and one-half hour segments over a two-week period. The training was designed to accomplish the following: (1) assist trainees in developing a working knowledge of the language of health care and psychosocial factors relevant to the survey; (2) enable trainees to answer questions intelligently that may be asked by participants; (3) to assist in the standardization process by asking the same questions in similar ways and elicit consistent responses from

participants. To achieve standardization, three assistants were available at each office to assist participants by conducting a one-hour interview using the questionnaire they were familiar with and specifically trained to administer. Upon first contact, prospects were encouraged to take and read an informed consent form (see Appendix D) and a card listing phone numbers where they might call for participation in the survey. The informed consent form contains general information, risks, benefits, and confidentiality associated with the study (Appendix D); it was approved by the Human Subjects Research Ethics Committee at Iowa State University as part of the Human Subjects Review process. To encourage participation, subjects were offered the opportunity to receive three free counseling sessions for a period of three months after the interview process. Also, potential participants were advised they could call for one free consultation related to mental health issues for up to six months after completing the questionnaire. A sample of ( $N = 107$ ) persons completed the survey. One hundred thirty persons consented to complete the questionnaire. When contacted by phone the 23 persons who failed to complete the survey did so for the following reasons: (1) traveling to the location was inconvenient; (2) they changed their minds about participating; and (3) concerns about privacy. The completion rate of participants turned out to be 88 percent. Of the persons who were able to participate, 37 were chosen from a local

shopping mall, 43 were chosen after attending a church service, and 27 were residents or visitors at a public housing site.

The sample is representative of the population of persons most likely to suffer physical illness due to somatization or injury. Seventy-nine percent are 34 and under. Nineteen percent represent the population of persons between the ages of 35 to 59. When studying physical illness and somatization a biased sample may contain a large number of persons with physical illness due to organic problems brought on by age. This sample is nonbiased in that it contains less than one percent of persons who suffer most from physical illness due to age, those age 59 and older. Most of the sample is female (62 percent), and 26 percent are married. Two percent are legally separated, 3 percent are married but estranged, and one percent of the sample are divorced. In regard to race, 78% of the sample is Caucasian, and 19% are African American.

### **Survey Instrument**

The survey instrument is a fifty-eight (58) item questionnaire designed to be completed within one hour. No identifying information other than demographic data is used in the recording of data. The first six items elicit demographic information—age, gender, marital status, occupation, employment status, and ethnicity. Questions 7-10 ask about problematic relationships that may have been a source of stress or conflict leading up to the time of illness or hospitalization. Questions 11-19

elicit information about participants' awareness of symptoms, diagnosis, and problems in living related to the illness. Questions 20-27 are related to participants' confidence in their physicians. Questions 28-34 inquire about the recovery experience and any contributions to recovery by counseling or psychosocial interventions, and items 35-46 assess the presence of psychosocial factors and personality traits. Items 47-50 inquire about satisfaction with treatment. Items 51-52 assess benefits other than recovery, and 53-58 assess treatment participation and outcome.

### **Validity and reliability**

Items are designed based on the evidence of face validity. Imbedded in the instrument are questions about psychosocial factors thought relevant to the treatment of physical illness. For instance, items 7-10 tend to measure differentiation, enmeshment, conflictual relationships, family dynamics, and unresolved relationships. Items 11-19 attempt to assess perception and awareness of problems in living. 20-27 examine the ability to gain control of one's life through access to health care resources and coping strategies (i.e., medication compliance). A copy of the survey instrument is attached (Appendix A).

### **Content validity**

The author has conducted previous research into this area resulting in a master's thesis. That research included a qualitative investigation in which

ethnographic interviews of more than 300 persons were conducted to study apparently physical illness for indications of somatization and psychosocial influences. One discovery from that research is that health care consumers receive indirect benefits from their treatment/hospitalization experiences. Results from that study have been incorporated into questionnaire items. Items were also chosen because of their consistency with DSM-IV. For example, the items related to personality traits (44-46) are consistent with character traits from DSM-IV, which further delineates personality Clusters A, B, and C. The Clusters were useful for analysis of data related to character traits.

#### **Criterion validity**

Findings in this sample are consistent with previous research conducted by the author (Jernigan, 1998). Twenty-eight percent of the sample report receiving a benefit other than recovery from their treatment experience; furthermore, 64 percent of the sample corroborated previous research by Jernigan (1998) that consumers typically receive certain benefits, including attention from another, distraction from stressors, and respite from home responsibilities. Hospitalization and/or treatment experience may be related to psychosocial needs as much as physical (Jernigan, 1998). (Christ & Flomenhaft, eds., 1982) characterize psychosocial factors as being important to overall health, and the instrument corroborates this finding. Forty-five percent of the sample sought treatment for problems that were not directly

determined to be organic. The sample results are consistent with Roberts' (1994) finding that a large number of patient visits can be attributed to psychosocial problems that present through physical complaints. Doherty and Baird (1983) believe family dynamics may have a role in the development of illness in family members. Results from this sample indicate that more than one-fifth of respondents believed marital and family issues to be related to their illness.

### **Construct validity**

The instrument is designed to assess the question of whether a significant number of illnesses are related to psychosocial issues. One specific focus is to determine if marital and family relationships contribute significantly to somatization and/or physical illness. Consistently, sample respondents indicate that illnesses tend to be related to problems in living, and many of these problems are relationship problems. The assumption of linearity necessary for divergent and convergent validity was not met in the data from this sample; therefore, construct validity analysis of the present instrument could not be determined. The absence of linearity also complicated efforts at linear regression analysis of data from the sample. Previous research and relevant literature (Engel, 1977; Mahoney & Lyddon, 1988; Jonas, 1979; Cohen & Brody, 1981; Cohen & Williamson, 1991) reject linear models in disease development for ones that are circular and systemic. Attempts at linearity in this sample appear to support nonlinearity; linearity could not be established.



### **Reliability**

Internal consistency analyses were conducted on item groups from the questionnaire. Coefficients (alpha) were computed for all of the groups of items for the survey. Except for the groups assessment (items 7-10), benefits (items 51-52), and participation in treatment and outcome, (items 53-58), coefficients were within acceptable parameters. The reliability coefficients were .11, .15, and .02, respectively, for items 7-10, 51-52, and 53-58. Coefficients were more acceptable for item groups 11-19 (.60), 20-27 (.57), 28-34 (.83), 35-43 (.45), and 44-46 (.41). Correlation matrices for the above are available in Appendix D.

### **Data collection and analysis**

Surveys were completed at offices used by the researcher and were collected by research assistants at those sites. First, extensive linear analyses were run to examine linearity between variables and build multiple regression models. Crosstabulations were run to determine counts of combinations of variables. Chi-square analyses were run to test independence between variables. Lamdas, gammas, and confidence intervals were computed for indications of relationships between variables. Null hypotheses determining independence were rejected at alpha (.05) level of significance for Pearson's chi-square results and degrees of freedom.

## RESULTS

### Regression Analyses

#### Analysis for linearity

Variables were analyzed for linear relationships (See Appendix B for Variable list). Analysis of the relationship between SESSIONS (number of sessions in counseling—item 38) and RECOVERY (extent of recovery—item 28) resulted in failure to reject the null hypothesis that there is no linear relationship between the number of sessions in counseling and the extent of recovery (Table 1).

**Table 1.**

Summary of Regression analysis for predicting RECOVERY (N = 107)

Variable	B	SE B	$\beta$	F	F-Sig.
<b>Step 1</b>					
Sessions	-.43	.25	.65*	3.0	.158

Note.  $R^2 = .43$

\* $p < .05$

Analyses of RECOVERY (item 28) and RXNUMBER (number of prescriptions received—item 27) resulted in the failure to reject the null hypothesis—there is no linear relationship between the number of prescription medicines received and extent of recovery (Table 2).

**Table 2.****Summary of Regression analysis for predicting RECOVERY (N = 107)**

Variable	B	SE B	$\beta$	F	F-Sig.
Step 1					
Rxnumber	-.11	.14	-.13*	.62	.44

Note.  $R^2 = .017$

\*p < .05

Furthermore, no linear relationship was found between RECOVERY and TALKTIME (item 50 [time doctor spent talking before diagnosis]—Table 3). No support was found that time spent by the doctor talking with the consumer before diagnosis was linearly related to extent of recovery.

**Table 3.****Summary of Regression analysis for predicting RECOVERY (N = 107)**

Variable	B	SE B	$\beta$	F	F-Sig.
Step 1					
Talktime	.02	.04	.05*	.30	.60

Note.  $R^2 = .002$

\*p < .05

Finally, the relationship between RECOVERY and TIMEPASS (time since most recent treatment—item 58) was investigated, and a linear relationship was found to exist between recovery and the passing of time after treatment (Table 4). The relationship is a positive linear relationship, implying that the extent of recovery

tends to be positively related to the passing of time. The extent of recovery is represented by 0 (none), 1 (partial recovery), and 2 (full recovery) over time (in number of months) since the most recent treatment; however, attempts at detecting linearity were abandoned due to lack of robust models even when linearity appeared to exist. Low R Squares indicated a failure to account for variance in the models, and the models were poorly specified based on this sample.

**Table 4.**

Summary of Regression analysis for predicting RECOVERY (N = 107)

Variable	B	SE B	$\beta$	F	F-Sig.
Step 1					
Timepass	.05	.019	.27*	7.7	.006

Note.  $R^2 = .07$

\*p < .05

After investigating variable relationships for linearity, attempts were made to build a multiple regression model. An attempt was made to build a multiple regression model using the independent variables SESSIONS, TALKTIME, RXNUMBER, AND TIMEPASS with the dependent variable RECOVERY. The multiple regression model was statistically insignificant, and no significant linear relationships could be inferred; furthermore, the model was not robust, accounting for only 7 percent of the variance in the sample. The model also failed to be useful in terms of its ability to predict other samples, with an adjusted R Square of only .02422 (Table 6).

**Table 5.****Summary of Regression analysis for predicting RECOVERY (N = 107)**

Variable	B	SE B	$\beta$	F	F-Sig.
Step 1					
<b>Table 5, continued.</b>					
Step 2					
Rxnumber	.03	.05	-.07*		
Sessions	-.004	.03	.01*		
Step 3					
Talktime	-.003	.04	-.01		
Step 4					
Timepass	.04	.02	.25		
<u>Note.</u> $R^2 = .02$					
*p < .05				1.52	* .21

### Confidence in physicians

Patients in the sample appear to have a high level of confidence in their physicians, especially in the areas of assessment, diagnosis, and treatment (see Appendix B for table of variables). Eighty-four percent of the participants reported physicians were able to determine the sources of their illnesses (based on responses to question 22). Ninety-two percent of the sample believed physicians assessed their conditions adequately (based on responses to question 20); furthermore, eighty-six percent of the participants believed treatment was directly related to specific symptoms, rather than by shotgun approach or guesswork (based on responses to question 25). Sample participants were also satisfied with

physicians' ability and willingness to talk with them. Seventy-two percent of the sample said that physicians kept them informed, and 85 percent believed doctors asked enough questions before making a diagnosis (based on responses to question 24). According to eighty-six percent of the sample, doctors communicated openly with them (based on responses to question 48). When asked if physicians talked extensively about the treatment process, 72.9 percent of the respondents answered yes (based on responses to question 49). In response to the question regarding how much time health care professionals spent assessing before treatment (item 50), 36.4 percent of physicians spent less than 15 minutes, and 33.6 percent spent 15-30 minutes. Almost 30 percent of the sample indicated their physicians spent more than 30 minutes assessing their conditions before making a diagnosis (item 50). Fifty percent of the sample say the information used for diagnosis was obtained by physician observation. Labs, tests, or other sources were used 13.3 percent of the time, and information from the health care consumer was used in 31.8 percent of the sample cases (item 12). In essence, the data indicate that participants were confident in physicians' assessments, communication skills, and the therapeutic relationship.

### **Organicity v. Somatization**

Sample results indicate that a significant number of illnesses are psychosocial. Based on responses to item 12, fifty-five percent of the cases were

organic; more than one-fourth (27.1 percent) of participants sought medical treatment for injuries, accidents and trauma; less than one percent (.9) of complaints were determined to be psychosocial or mental; and 16.8 percent were of uncertain origin. In total, about forty-five percent (44.9) of the symptoms were non-organic.

### **Issues Explored in Counseling**

Marital and family issues were the primary psychosocial concerns in 48 percent of the cases (based on responses to item 33); spirituality was the primary issue explored in 20 percent of cases. Based on responses to item 34, the most common type of psychosocial issues explored were marital and family (38.1 percent) and spiritual (19 percent). Marital and family issues were found to be related to physical illness in 23.4 percent of the cases (based on responses to item 35).

### **Counselor Preference**

When asked about counselor preference (item 32), the overwhelming choice was pastoral counselor (33.3 percent). Clinical social workers and psychologists were the next preferred categories, at 16.7 percent each. Marital and family therapists were selected equally with psychiatrists, mental health counselors, and other counselors at the rate of 8.3 percent.

### **Personality and Physical Illness**

Denton et al. (1999) assert that certain personality disorders are associated with the increased use of health services. Individuals with personality disorders are particularly vulnerable to stress-related syndromes; furthermore, personalities from Clusters B and C are particularly vulnerable to autonomic nervous system symptoms, cardiovascular problems, and gastrointestinal symptoms (Everly, 1989). Based on responses to item 45, more than three-fourths (78.4 percent) of sample participants are from Clusters B and C. Almost fifty percent (46.4 percent) of the sample reported anxious-avoidant personality traits representative of Cluster C, the cluster that has been the least investigated (Paris, Frank, Buonvino, & Bond, 1991). Further research is suggested on the utilization rates of persons in this cluster. Data suggest that tendencies of Cluster C types (to endure in pathological relationships, change self for system survival, and withdraw during conflict) may be a basis for high incidences of physical illness and utilization of health care services. Almost one third (32 percent) of the sample claim to be Cluster B personalities. One-fifth of the sample (21.6 percent) are Cluster A personalities. The incidence of physical illness in Clusters A, B, and C have implications for utilization of services by persons in these categories.



### **Secondary Gain**

Being ill was not the only reason for seeking medical assistance. A case study by the author (1998) elicited confessions from several participants that hospitalization was an opportunity to get away from personal responsibilities, stressful relations, and other situations. One participant in that study acknowledged that she controlled her family better from her hospital bed. When the present sample participants were asked if they received benefits other than recovery from illness, 31.9 percent said yes (based on responses to question 51). When asked what those benefits were (item 52), 43.5 percent indicated attention from another while 14.5 percent chose respite from home responsibilities. Distractions from stressors and answers to my questions each were selected by 10.1 percent of the participants.

### **Secrets**

Respondents were asked about the relationship of secrets to physical illness. 10.1 percent confessed they held secrets possibly related to their illnesses (based on responses to item 42). When asked if they thought disclosing these secrets would aid in their recovery, 7 percent confessed this belief. In relation to their preference of a confidant, the most common choice was a family member (62.7 percent), then a friend (14.5 percent), and an in-law (7.2 percent).

### Chi-square Results

Chi-square analyses indicate a relationship between several variables and some interesting results about others. A relationship is indicated (see chi-square tables in Appendix B) between knowing one's complaint is physical (item 22) and the physician finding no medical basis for illness (item 23),  $\chi^2(1, N = 107) = 8.51, p < .05$ ; knowing one's complaint is physical tells us something about the physician's ability to find a medical basis for the illness. Crosstabs indicate patients tend to agree with physicians about the likelihood that physical illness is organic. In 91.4 percent of the cases, it was believed that physicians found a medical basis for complaints (item 23); moreover, 81 percent of the patients knew their complaint was physical only (item 22). The results indicate a relationship between doctors finding a physical problem and patients' belief that a problem exists. Doctors found no medical basis for illness in about 9 percent of the sample (item 23). In determining the relationship between secondary gain (item 51) and whether a physical illness is found to be organic (item 22), the null hypothesis is rejected  $\chi^2(1, N = 107) = 16.96, p < .05$ . Knowing that one's complaint is physical (or not) is related to receiving secondary gain, suggesting a relationship between secondary gain and somatization. Receiving counseling as part of treatment (item 29) is related to holding secrets possibly related to illness (item 42),  $\chi^2(1, N = 107) = 24.17, p < .05$ , suggesting secrets may contribute to the development of physical illness. A

relationship is also indicated between physician recommendation that patients receive counseling (item 30) and the likelihood those patients tend to hold secrets possibly related to their illnesses (item 42); the null hypothesis is rejected,  $\chi^2(1, N = 107) = 13.219$ ,  $p < .05$ , suggesting physicians were aware of the presence of psychosocial issues related to physical illness in these cases.

### **Crosstabulations**

Crosstabs run for other variable combinations failed to indicate relationships between factors, but they revealed some interesting findings about the relationships between psychosocial factors and physical illness. Seventy-eight percent of persons receiving treatment acknowledged personality traits falling into personality Clusters B and C. This finding is consistent with research indicating that a significant number of people suffering from somatization are represented in clusters B and C (Everly, 1989). Forty-six percent of the sample consistently fell into Cluster C (avoidant, dependent, and obsessive compulsive) while Cluster B (antisocial, borderline, histrionic, and narcissistic) was represented by 32 percent of the sample (based on responses to item 45). Thirty four (34.6) percent of the sample admitted to having obsessive compulsive traits, consistently. The data also suggest that persons in Clusters B and C seek help more frequently, even when no medical basis for their illness is evident. Thirdly, 34.5 percent of the sample admitted to receiving some benefit other than recovery from their treatment or hospitalization experience, a

finding consistent with earlier research (Jernigan, 1998). Some of the benefits patients admitted to receiving were attention from another (43.5 percent), respite from home responsibilities (14.5 percent), distractions from stressors (10.1 percent), and answers to my questions (10.1 percent). Fourthly, 10% of respondents confessed to holding secrets possibly related to the illness for which they were being treated, corroborating the above finding that a relationship exists between people holding secrets and those seeking help for physical illness. Ten percent of the sample holding secrets had not recovered from their illnesses, compared with 6.2% of those who said they held no secrets, suggesting a connection between disclosing secrets and recovery. Although a significant chi-square value was not received, a gamma of 1.0 gives the interpretation of a perfect relationship between disclosing secrets (item 43) and extent of recovery (item 28). Results, however, should be interpreted cautiously, in light of the minimum expected frequency (.264) and number of cell frequencies less than 5 (50%). Finally, the population found most likely to hold secrets related to their illnesses are found in Cluster C. Whether they are avoidant, dependent, or obsessive compulsive is not known, but this finding may be a basis for further research.

## **DISCUSSION**

### **Psychosocial Factors in the Research Literature**

There is evidence in the research literature of relationships between psychosocial factors and physical illness. The literature suggests that psychosocial factors are associated with physical illness (Jonas, 1979; Cohen & Brody, 1981; Wolkenstein and Butler 1998); furthermore, the literature proposes that psychosocial factors are important to overall health (Christ & Flomenhaft, 1982) and are involved in every patient encounter (Wolkenstein & Butler, 1998). The literature goes on to maintain the role of psychological factors and stress in the development and course of disease (Cohen & Williamson, 1991; Baum & Nesselhof, 1988; Kiecolt-Glaser & Glaser, 1988). The claim was even put forth that 50% of all morbidity and mortality can be traced to behavioral origins (McGinnis & Foege, 1993).

As is typical in social science, the relationships between psychosocial factors and physical illness are complex. The literature indicates that various exogenous and endogenous factors may influence the development of illness, with the suggestion of an interactive process in which the individual participates (Antonovsky, 1979; Weil, 1972). The relationship between psychosocial factors and/or physical illness was not found to be linear; therefore, a causal model is not inferred. Instead, an elaboration model is suggested that shows the nature and intensity of relationships. A linear model infers that everyone exposed to infection

becomes ill; however, the research does not support such an assertion. The data from this present sample fail to support linear relationships. Among the proportion of persons who do become sick, symptomatology may vary widely (Cornfeld & Hubbard, 1964; Fernald et al. 1975). Various extraneous variables may be involved, and they are expected to vary from case to case. Many of these variables may be related to behavior, lifestyle choices, and other factors. One example of the kinds of choices that contribute to development and course of illness may be the failure to seek help (Cohen & Williams, 1991), which can also contribute to chronic illness, the nation's overwhelming health problem (Wickramasekera et al. 1996).

Development is also a factor, including the process of disease as change and development. Genetics is a developmental factor that plays a role in the development of illness (Lerner, 1978). The argument is also made that social processes influence biological changes and development (Cohen & Williamson, 1991; Maxmen & Ward, 1995; Kandel, 1983). Important to this contention is the proposition that brain changes have been influenced by social processes over time (Jantsch, 1980; Mahoney & Lyddon, 1988; Lerner, 1986).

Another important aspect of the literature is its inferences about coping strategies and seeking help. Seeking medical care involves both defining a constellation of symptoms as an illness and deciding to seek care (Cohen & Williamson, 1991). Some people choose not to seek help; instead, they tend to

develop or utilize coping strategies, which may result in chronic illness or further distress. One symptom may not be sufficient motivation for seeking care. The people who do not seek care may be as ill as those who do (Cohen & Williamson, 1991).

Another important finding by Seaburn et al. is that the typical patient admits to having multiple psychosocial problems and at least one physical problem. Among the multiple psychosocial problems are stress, anxiety, and depression. Stress was found to have an important role in the development of physical symptoms. According to the literature, most persons in this population present with stress, anxiety, or depression (Seaburn et al). It is implied that stress affects the body's immune responses (Cohen & Williamson, 1991), and the concomitant distress can affect biological processes or behavioral patterns that increase or decrease risk (Cohen et al. 1986).

Family dynamics, symptom development in relationships, and symptom function in families are important to understanding physical illness. Some of the problems cited are marital schism and marital skew and their negative effects on children, in addition to the early work on schizophrenia (Becvar & Becvar, 1996). Doherty and Baird (1983) conclude that family dynamics have a role in the development of illness in families. Haggerty & Albert (1967) show that family stresses have been related to the occurrence of illnesses. Not to be ignored is the

assertion of Weakland (et al.) that problems of interaction are the source of difficulties; furthermore, adaptations to difficulties were found to contribute to symptom development. Also important but not dealt with in any substantial way in available research or literature is the desynchrony that tends to precipitate loss of intimacy between people. The resulting polarization tends to cause negative life events and negative states that may lead to physical illness (Cohen & Williamson, 1991; Weakland et al.; Willi, 1982). Enmeshment, overprotection, rigidity, and lack of conflict resolution in families with chronic illness in the research on psychosomatic families (Minuchin, Rosman, & Baker, 1978) are given some attention. Lyddon's assertion that symptoms have a regulatory function is to be taken seriously. For marital relationships, symptoms in the form of collusive alliances were found to be either healthy or unhealthy and adaptive or maladaptive (Willi, 1982), the goal being systemic self-regulation (Lyddon, 1987).

Denton (et al.1999) assert certain personality disorders are associated with the increased use of health services and that people with certain character traits may be at increased risk for both illness behaviors and pathology (Cohen & Williamson, 1991). Personality is also associated with maladaptive coping and responses to stressors (Everly, 1989); depression and anxiety are often experienced as co-morbid disorders this population (Fong, 1995). Individuals with personality disorders are particularly vulnerable to stress-related syndromes, and clients with



Cluster B and C disorders are particularly vulnerable to autonomic nervous system symptoms, cardiovascular problems, and gastrointestinal symptoms (Everly, 1989).

Smilkstein (1984) suggests that an assessment of family functioning has certain benefits for somatization. The APGAR is one of the instruments recommended for this task. McGoldrick & Gerson (1985) promote the genogram for use in indicating previous illnesses or symptom patterns and facilitate early detection of a problem and preventive treatment of family members at risk. Weakland (et al.) suggest examining transitional periods in family development for stress and problem development. Other recommendations for assessment of family functioning are the areas suggested in Minuchin (et al. 1978)—enmeshment, overprotectiveness, rigidity, and lack of conflict resolution. Olson's Circumplex Model is another instrument suggested for assessing family functioning.

### **Implications**

The discussion of psychosocial factors in the literature makes specific propositions about family functioning, development, coping strategies, seeking help, collusive relationships, family dynamics, stress, anxiety, and depression. While the literature briefly discusses personality, not much is available in terms of specific empirical data. Other factors not given much attention are secrets, secondary gain, the confidence of patients in physicians, physician competence, and spirituality.

The sample results indicate patient confidence in physicians. People appear generally satisfied with their practitioners. Sample results do support further research in two areas, the amount of time spent talking with patients and the sources used for diagnostic information. There is indication that the time spent with patients before diagnosis is generally around 15 to 30 minutes, with the most common occurrence being less than 15 minutes. In the area of what physicians use as their primary source of diagnostic information, 63.8% of the information used for diagnostic information comes from physician observation and lab tests, the implications being that less time is spent gathering rich descriptions of patient experiences of their illnesses. About 30 percent of diagnostic information comes from the consumer/patient (item 50). One concern in this area is the marginalization of patient subjective experience. If most of the information for diagnosis comes from physician observation and lab results, odds decrease that valuable information will be obtained from the subjective experience of the consumer. Although the medical specialist is trained in diagnosis, assessment, and treatment protocols, the subjective experience of the patient regarding his/her illness may provide the best description of the origin and course of illness. Marginalization of patient experience may result in more expensive health care, excessive use of technology, increased chance of misdiagnosis, increased likelihood of inappropriate prescription of medication, and failure to check for interaction between medication.

About forty-five percent of the cases in the sample fall into the category of nonorganic, meaning they cannot be conclusively traced to an organic origin. This finding is consistent with research indicating that as many as 40 percent of all patients may have somatoform disorder (Smith et al. 1986), and that the majority of patient visits can be attributed to psychosocial problems that present through physical complaints (Roberts, 1994). The literature also shows that the diagnosis of somatization disorder is common in health care settings (DeGruy et al. 1987). It should be noted that the complaints due to accidents or injuries could have been just unplanned accidents or injuries beyond the control of the patient, but Boss would say that many of these cases may be existential in their occurrence, with phenomenological implications (Boss, 1994). It is not being asserted that all occurrences are controlled by unconscious motivation, but the possibility is certainly being implied that not all accidents are "accidental." Organicity, at least at present, is the major variable in explaining physical illness, but psychosocial factors outnumber organic explanations (Silverman et al.); furthermore, as reported by Seaburn et al., the typical patient is expected to have multiple psychosocial problems comorbid with at least one physical problem.

Interviews with clergy over the years has consistently uncovered a desire for more training in working with families over and above the training in counseling received as part of seminary training (Jernigan, 1992). It is commonly acknowledged

by clergy that much of pastoral counseling is related to marital and family issues as well as pastoral. This has implications for programs which train clergy and marriage and family therapists. Many marital and family therapy programs minimize the importance of religion and spirituality, while seminary and pastoral counseling programs don't focus enough on marital and family issues; however, progress is being made from both directions.

The finding that marital and family issues were the primary issues explored in counseling (48%) and spirituality at 20 percent as the second choice has important implications. The first is the recognition of the need for psychotherapists trained in both areas when working with physical illness and somatization. A second implication is that it corroborates data (Jernigan, 1992) and concerns of seminary educated clergy across the United States. Ninety clergy asked about the adequacy of training for counseling requests and needs in their congregations all replied that marital and family-related counseling is a major part of what they do. The most common complaint was that they did not receive enough counseling training in their seminary curricula, at either the master's or doctoral levels. The only exception was those trained specifically in seminary programs with a counseling track. Another implication is that pastoral counseling may offer a system of doing therapy that rivals the best secular psychotherapy. Pastoral counseling features the ministry of presence, the dimension of "being with" clients through their time of crisis, and

pastoral counseling is applicable at a number of levels. Not only were marital and family and spirituality the primary issues explored in counseling for the population, they were also the issues explored most often; therefore, training at the systemic and spiritual levels are essential for working with medical patients. Finally, 23.4 percent of the sample agree that marital and family issues were related to their physical illness (based on responses to item 35). This is not an overwhelming number, but it is large enough to imply that marital and family issues are related to physical illness. At least one-third (33.3 percent) of the sample preferred pastoral counselors over the others. Clients desire counselors trained to deal with both secular and spiritual issues (Patterson, Hayworth, Turner, & Rashkin, 2000).

Some of the most intriguing results from this study were related to personality traits. Personality disorders are given minimal attention in counseling and psychotherapy, including family therapy. Insurers do not pay for delving into personality disorders because of the poor prognosis associated with curing them; however, this area may hold the key to understanding many of the chronic and prevalent physical illness among the population of concern. The personality Clusters A, B, and C in DSM-IV may hold important cues to treatment evaluation. Research indicates that people in personality Clusters B and C are more likely to seek help (Denton et al.; Everly, 1999), and this is borne out in the sample results. Almost half (44 percent) of the sample fall into Cluster C (anxious personality traits), while 29

percent of those in the sample represent Cluster B (dramatic or acting out personality traits). These findings have implications for future research into the specific personality clusters and physical illness. Research is needed which focuses both on the roles played by the three clusters and the personality traits or disorders that comprise each category. While personality disorders go undiagnosed or largely ignored in treatment, knowledge of their prevalence and comorbidity with certain physical illness may assist in the prediction of somatization and utilization of health care. Data from the sample indicate that Clusters B and C are more common in the population of those presenting for treatment with nonorganic disorders. Specifically, obsessive compulsive traits are overwhelmingly represented.

Previous research (Jernigan, 1998) indicated that some patients were not shy about acknowledging secondary gain from the hospitalization or treatment experience. Findings from the earlier research indicated that "attention from another," "respite from home responsibilities," and "distractions from stressors" were common benefits. This present study confirms the previous study, with a new finding. 10 percent of the sample indicated that "answers to my questions," was a benefit of hospitalization or treatment. Further data is need to determine what specific questions patients want answered.

## **Secrets**

Ten percent of respondents confessed they held secrets possibly related to their illnesses. When asked if they thought disclosing these secrets would aid in their recovery, only 7 percent confessed this belief. In relation to their preference of a confidant, the most common choice was a family member (62.7 percent), then a friend (14.5 percent), and an in-law (7.2 percent). Crosstabs of RECOVERY and SECRET (items 28 & 43) suggest that those who had not recovered were the 10 percent that held secrets related to their illness. The relationship between items 22 and 51 suggests that patients who are aware of a secondary gain know the origin of their illness, whether psychosomatic or organic. For some patients this may be the secret they are holding, but this is speculative until further research can be done. The researcher believes the secrets held by patients are of a much more serious nature (e.g., trauma, abuse, guilt, anger against significant others, etc.). The relationships between receiving counseling and holding a secret and physician recommended counseling and holding a secret suggests that the physicians in the sample were accurate in choosing patients to recommend for counseling. Thirty-six percent of patients recommended for counseling held secrets related to their illnesses (based on responses to item 42). Forty-one percent of persons who received counseling held secrets possibly related to their illness. The data suggest that doctors in this sample referred for counseling persons who would benefit most.

## **CONCLUSIONS**

This study is a nonexperimental exploratory survey of the attitudes and opinions of persons treated in hospitals and health care facilities. The initial problem explored is whether or not psychosocial factors contribute to somatization or physical illness. Also, the investigator is concerned with what factors are found to be related to physical illness. The study is expected to serve as a pilot study for future projects into the investigation of relationships between psychosocial factors and physical illness. Findings are expected to be useful in understanding the nature and types of relationships that exist; furthermore, the understanding of these relationships may provide useful for assessing the etiology of physical illness. These results may subsequently be helpful toward the development of an instrument for assessing psychosomatic illness and the biopsychosocial assessment of physical illness in general. Finally, results may be useful in developing a model for predicting somatization using indicators of psychosocial factors.

### **Predicting Physical Illness**

One of the implications of this data is its usefulness for building a model for predicting physical illness, using Hans Selye's General Adaptation Syndrome (Rossi, 1993) as a template. Selye's GAS model promoted illness as being tri-phasic: (1) A stressor from the environment evokes a sense of alarm from the organism, who then goes through (2) a state of resistance to restore homeostasis,



(3) ultimately resulting in the state of exhaustion. Sapolsky (1992) subsequently revises Selye's model and presents the Complex Adaptive Response, which refutes the exhaustion variable. Sapolsky appears to believe exhaustion may be a variable in the model, but not a constant. An elaboration model may be used to depict the exogenous and endogenous variables predicting physical illness as well as somatization. Whereas previous views tend to posit stress as an exogenous variable, an elaboration model might posit experience as an antecedent variable and depression and anxiety as intermediate variables. The details of such a model are beyond the scope of this paper, but it is an opportunity for further research arising out of this present exercise.

### **Preventing Physical Illness**

A model designed for predicting illness also would be quite useful for preventing illness. If psychosocial variables are found to be related to or predict physical illness or somatization, the manipulation of these variables are to be useful for prevention of the same. As marital and family issues appear to be related to physical illness, relationship counseling could be used in early stages of certain symptoms to augment the onset of full-blown disease states. Furthermore, counseling could be substituted for coping strategies or be put in place where anxiety, stress, or depression are evident. Another suggestion is that psychotherapy

be used in conjunction with biomedical treatments when somatization is the diagnosis.

### **Implications for Marital and Family Relationships**

Findings from this study may also be useful as a heuristic for research into marital and family relationships. Research indicates that family and marital relationships are important to the development and outcome of physical illness. Evidence also suggests that somatization is a major form of physical illness in marital and family relationships (Willi, 1982). Developmentally, the set-up for physical illness may be present in the early stages of relationship formation, and research might be useful in predicting illness/somatization further into the relationship. For example, some partners of persons whose lives are existentially restricted or limited may find themselves being limited by that person's limitations or restricted choices, with concomitant stressors and anxiety or depression becoming precipitants of somatization or bodying forth (Rossi, 1993). In other situations, pursuer-distancer motifs may leave one partner of a dyad intimate-frustrated, precipitating stress, depression, anxiety, and physical symptoms that are psychosocial in origin. In still other situations, some couples enter relationships with one or both having unresolved secrets or buried traumas that may ultimately manifest as physical symptoms, and counseling can be used to uncover these before the relationship becomes locked in to pathological interactions. Furthermore,

the understanding of personality disorder Clusters may provide useful opportunities for understanding choice of partner and its effect on predicting illness. This has implications for chronic illness (and in some cases terminal illness) that may be a result of long-term personality mismatch between collusive partners. Further research is also suggested for developing an instrument for assessing psychosomatic illness and psychosocial factors associated with physical illness. As mentioned, Maxmen and Ward's biopsychosocial formulation is useful, but it is clearly based on the medical model. Although instruments tend toward quantification, qualitative models may be useful for ethnographic analyses designed for eliciting a thick description of patient and family experiences. The prevalence of psychosocial problems and diagnoses of somatization (Roberts, 1994; DeGruy et al.; Smith et al.) provide argument for the development of instruments and attention to psychosocial aspects of physical illness.

### **Postmodernism and Social Constructionism**

Whereas biomedical health care is dominated by positivistic and Cartesian-Newtonian methodology (Engel, 1977; Lyddon, 1978), biopsychosocial approaches are represented by postmodernism and social constructionism. Because of its importance to postmodernism and family therapy, a brief explanation of social constructionism is presented below.

## **Social constructionism**

Social constructionism, a postmodern movement, is related to symbolic interaction theory in its focus on interpreting meanings about relationships and human interaction. One of the important aspects of symbolic interaction is the social construction of meaning. The classic postmodern position on the role of language is that it has taken center stage, and discourse has become a central concept (Becvar & Becvar, 1996). Language for the postmodernist is understood as the means by which individuals come to know their world and in their knowing simultaneously to construct it (Becvar & Becvar, 1996). Social constructionist inquiry, then, is principally concerned with explicating the processes by which people come to describe, explain, or otherwise account for the world (including themselves) in which they live" (Gergen, 1985). Hardy (1993) talks about the distinction between social constructionism and radical constructivism. Social constructionism departs from constructivism in its emphasis on sociological over biological systems. Although reality is created by the observer in both social constructionism and constructivism, the creation process does not occur in isolation, but rather through human interaction and language. The co-creation of realities occurs through conversational exchanges (dialogues) through a process of arriving at mutually agreed upon meanings. Whereas constructivism postulates that organisms can only influence each others' realities indirectly, social constructionism posits that individuals directly

shape and influence each others' reality constructions through an interactive, evolving, perpetual flow of dialogue and narrative (Hardy, 1993). It is the meanings attributed to discourse that provide the messages for illness in general, and somatization in particular. Foucault argues (1978; 1979) that society pathologizes individuals in power struggles to assure its own survival. Institutions of social control geared toward this end are prisons and hospitals. The interplay of socially constructed meaning and high incidence of somatization in our society are some indication of complicity on the part of people who become symptomatic when no apparent organicity can be uncovered.

**APPENDIX A. SURVEY INSTRUMENT**

1. What was your age at the time of treatment or hospitalization?
  - a. under 14
  - b. 14-17
  - c. 18-21
  - d. 22-25
  - e. 26-34
  - f. 35-59
  - g. 60 and older
2. What is your gender?
  - a. male
  - b. female
3. What was your marital status at the time of treatment or hospitalization?
  - a. single
  - b. engaged
  - c. married
  - d. common-law
  - e. legally separated
  - f. married but estranged
  - g. divorced
4. What was your occupation at the time of treatment or hospitalization?
  - a. general employment
  - b. clerical
  - c. professional
  - d. medical/dental
  - e. other (please specify) \_\_\_\_\_.
5. What was your employment status at the time of treatment or hospitalization?
  - a. part-time
  - b. full-time
  - c. other (please specify) \_\_\_\_\_.
6. What is your ethnicity?
  - a. Caucasian
  - b. African American
  - c. Hispanic or Latino

- d. African
  - e. Asian
  - f. other (please specify) \_\_\_\_\_.
7. Whom did you live with at the time of your treatment or hospitalization? .
- a. spouse/children
  - b. family of origin
  - c. parents only
  - d. sibling(s) only
  - e. other relatives
  - f. friends
  - g. acquaintances
  - h. other (please specify) \_\_\_\_\_.
8. Did someone other than your family live in your house at the time of your treatment or hospitalization?
- a. yes
  - b. no
  - c. not sure
9. Were you in an estranged relationship at the time of your treatment or hospitalization?
- a. yes
  - b. no
  - c. not sure
10. Were there any other problematic relationships in your life at the time of your treatment or hospitalization?
- a. yes
  - b. no
  - c. not sure
11. What was your diagnosis? \_\_\_\_\_.
12. What were your symptoms? \_\_\_\_\_.
13. What information did your doctor use for your diagnosis?
- a. information provided by me
  - b. his/her observations (examinations, etc.)
  - c. information from other sources (lab results, family members, friends, etc.)

14. Do you know or remember the signs or symptoms that caused you to seek medical assistance?

- a. yes
- b. no
- c. not sure

15. What kind of symptom were you first aware of?

- a. physical
- b. mental
- c. other

16. Were you experiencing other problems in living at the onset of your condition?

- a. yes
- b. no
- c. not sure

17. What type problems were you experiencing?

- a. sudden change in family through loss or disruption, abuse or neglect
- b. death or loss of friend, discrimination, life-cycle transition (e.g., retirement)
- c. illiteracy, difficulties with teachers or classmates, inadequate school environment
- d. unemployment, threat of job loss, job or work stress
- e. inadequate housing, unsafe neighborhood, discord with neighbors or landlord
- f. extreme poverty, inadequate finances, insufficient welfare support
- g. inadequate health care services, transportation to health care, inadequate health insurance
- h. arrest, incarceration, litigation, victim of crime
- i. exposure to disasters, war, other hostilities, discord with nonfamily caregivers such as counselor, social worker, or physician; unavailability of social service agencies

18. Prior to the onset of your illness or condition, what problems in living had you been experiencing?

- a. sudden change in family through loss or disruption, abuse or neglect
- b. death or loss of friend, discrimination, life-cycle transition (e.g., retirement)
- c. illiteracy, difficulties with teachers or classmates, inadequate school environment
- d. unemployment, threat of job loss, job or work stress
- e. inadequate housing, unsafe neighborhood, discord with neighbors or landlord
- f. extreme poverty, inadequate finances, insufficient welfare support



- g. inadequate health care services, transportation to health care, inadequate health insurance
- h. arrest, incarceration, litigation, victim of crime
- i. exposure to disasters, war, other hostilities, discord with nonfamily caregivers such as counselor, social worker, or physician; unavailability of social service agencies

19. What were the first symptoms you remember related to your treatment or hospitalization?

\_\_\_\_\_.

20. Do you believe your doctor assessed your condition adequately?

- a. yes
- b. no
- c. not sure

21. Do you believe your doctor knew what was wrong with you physically?

- a. yes
- b. no
- c. not sure

22. Do you believe that your complaint was physical only?

- a. yes
- b. no
- c. not sure

23. Did your doctor ever advise that he/she could find no medical basis for your complaint?

- a. yes
- b. no

24. Do you believe your doctor asked enough questions to elicit all you knew about your condition?

- a. yes
- b. no
- c. not sure

25. Do you believe your doctor treated your symptoms or took the "shotgun" approach?

- a. treated my symptoms

- b. shotgun approach
  - c. not sure
26. Did your doctor prescribe any medication as part of your treatment?
- a. yes
  - b. no
27. How many prescription medications did your doctors prescribe?
- a. 1
  - b. 2-3
  - c. 4-7
  - d. more than 7
28. What type recovery did you experience?
- a. full
  - b. partial
  - c. none
29. Did you receive counseling as part of your treatment?
- a. yes
  - b. no
30. If you did not receive counseling, did your physician recommend it?
- a. yes
  - b. no
31. Do you believe that counseling could have aided your recovery?
- a. yes
  - b. no
  - c. not sure
32. If you received counseling, what kind of counselor did you see?
- a. psychiatrist
  - b. psychologist
  - c. marriage and family therapist/counselor
  - d. pastoral counselor
  - e. mental health counselor
  - f. clinical social worker
  - g. substance abuse counselor
  - h. other

33. What type issues did your counselor explore with you?

- a. marital and family
- b. mental health
- c. medical
- d. religious/spiritual
- e. substance abuse
- f. work, school, interpersonal
- g. other (please specify) \_\_\_\_\_.

34. What issue did you explore more than others?

- a. marital and family
- b. mental health
- c. medical
- d. religious/spiritual
- e. substance abuse
- f. work, school, interpersonal
- g. other (please specify) \_\_\_\_\_.

35. Which issue may be related to your illness or condition?

- a. marital and family
- b. mental health
- c. medical
- d. religious/spiritual
- e. substance abuse
- f. work, school, interpersonal
- g. more than one (e.g., a, b, and c) \_\_\_\_\_.

36. Did you become aware of any improvement in your condition after talking with a counselor?

- a. yes
- b. no
- c. not sure

37. Did you feel better or healthier after talking with a counselor?

- a. yes
- b. no
- c. not sure

38. How many sessions did you spend with your counselor?

- a. 1-3
- b. 3-6
- c. 6-9
- d. 9-12
- e. more than 12

39. To your knowledge, did your counselor explore the issues related to your illness or condition thoroughly?

- a. yes
- b. no
- c. not sure

40. If you did not receive counseling, did you share with anyone your feelings, concerns, or attitudes about your illness or condition?

- a. yes
- b. no

41. If so, what is your relationship to that person?

- a. family member
- b. in-law
- c. other relative
- d. friend
- e. acquaintance
- f. pastor
- g. other

42. Can you think of any personal or family secrets that may be related to your condition or illness?

- a. yes
- b. no
- c. not sure

43. Do you believe that disclosing such secrets could assist in your recovery?

- a. yes
- b. no
- c. not sure

44. If you were asked, what characteristics would best describe you?

- a. distrust and suspiciousness of others' motives

- b. detachment from social relationships, restricted range of emotional expression
  - c. some discomfort in close relationships, distortions in thinking and perceptions, impulsiveness
  - d. tendency to disregard and violate the rights of others
  - e. instability in interpersonal relationships, self-image, emotions, and impulsiveness
  - f. excessive emotionality and attention seeking
  - g. tendency toward grandiosity, need for admiration, and lack of empathy
  - h. socially inhibited, feelings of inadequacy, and hypersensitivity to negative evaluation
  - i. submissive and clinging behavior related to an excessive need to be taken care of
  - j. preoccupation with orderliness, perfectionism, and control
45. Choose a second set of characteristics that might also tend to describe you?
- a. distrust and suspiciousness of others' motives
  - b. detachment from social relationships, restricted range of emotional expression
  - c. some discomfort in close relationships, distortions in thinking and perceptions, impulsiveness
  - d. tendency to disregard and violate the rights of others
  - e. instability in interpersonal relationships, self-image, emotions, and impulsiveness
  - f. excessive emotionality and attention seeking
  - g. tendency toward grandiosity, need for admiration, and lack of empathy
  - h. socially inhibited, feelings of inadequacy, and hypersensitivity to negative evaluation
  - i. submissive and clinging behavior related to an excessive need to be taken care of
  - j. preoccupation with orderliness, perfectionism, and control
46. Choose a third pattern of traits that might tend to describe you?
- a. distrust and suspiciousness of others' motives
  - b. detachment from social relationships, restricted range of emotional expression
  - c. some discomfort in close relationships, distortions in thinking and perceptions, impulsiveness
  - d. tendency to disregard and violate the rights of others

- e. instability in interpersonal relationships, self-image, emotions, and impulsiveness
  - f. excessive emotionality and attention seeking
  - g. tendency toward grandiosity, need for admiration, and lack of empathy
  - h. socially inhibited, feelings of inadequacy, and hypersensitivity to negative evaluation
  - i. submissive and clinging behavior related to an excessive need to be taken care of
  - j. preoccupation with orderliness, perfectionism, and control
47. Did your treatment involve more than one health care professional?
- a. yes
  - b. no
  - c. not sure
48. Did your physician communicate openly with you?
- a. yes
  - b. no
  - c. not sure
49. Did your physician talk extensively with you about your condition or illness?
- a. yes
  - b. no
  - c. not sure
50. How long did your doctor talk with you before diagnosing your condition or illness?
- a. less than 15 minutes
  - b. 15-30 minutes
  - c. 30-45 minutes
  - d. 45-60 minutes
  - e. more than one hour
51. Did you experience any benefit from treatment or hospitalization other than recovery from illness?
- a. yes
  - b. no
  - c. not sure
52. Which of the following secondary benefits did you experience as a result of your hospitalization or illness?

- a. attention from another human who expressed care/concern about me
- b. the touch of another person
- c. being able to talk with someone outside of my normal circle(s)
- d. temporary relief from responsibilities at home
- e. temporary relief from responsibilities at work
- f. control over problems in living
- g. distraction from current life pressures
- h. other (please specify) \_\_\_\_\_.

53. Did your physician or other health care professional keep you informed about the process of treatment?

- a. yes
- b. no
- c. not sure

54. Were you encouraged to participate in the treatment process?

- a. yes
- b. no
- c. not sure

55. Did any of your problems in living subside after your treatment or hospitalization?

- a. yes
- b. no
- c. not sure

56. Did any of your problems in living continue to exist after your treatment or hospitalization?

- a. yes
- b. no
- c. not sure

57. Did any new problems in living appear after your treatment or hospitalization?

- a. yes
- b. no

58. How much time has passed since your most recent treatment or hospitalization?

- a. 0-3 months
- b. 3-6 months

- c. 6-9 months
- d. 9-12 months
- e. 12-15 months
- f. 15-18 months
- g. 18-24 months
- h. longer than 24 months



## APPENDIX B. TABLES

## Regression Tables

\* \* \* \* MULTIPLE REGRESSION \* \* \* \*

Listwise Deletion of Missing Data

Equation Number 1      Dependent Variable..      RECOVERY      extent of recovery

Block Number 1.      Method:      Enter      SESSIONS

Variable(s) Entered on Step Number

1..      SESSIONS      number of sessions in counseling

Multiple R	.65465
R Square	.42857
Adjusted R Square	.28571
Standard Error	.46291

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.64286	.64286
Residual	4	.85714	.21429

F =      3.00000      Signif F =      .1583

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
SESSIONS	.428571	.247436	.654654	1.732	.1583
(Constant)	1.428571	.646813		2.209	.0918

End Block Number 1      All requested variables entered.

\* \* \* \* MULTIPLE REGRESSION \* \* \* \*

Listwise Deletion of Missing Data

Equation Number 1      Dependent Variable..      RECOVERY      extent of recovery

Block Number 1.      Method:      Enter      RXNUMBER

Variable(s) Entered on Step Number

1..      RXNUMBER      number of prescriptions received

Multiple R                      .13047  
R Square                        .01702  
Adjusted R Square              -.01028  
Standard Error                 .54410

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.18457	.18457
Residual	36	10.65753	.29604

F =                      .62346                      Signif F =      .4349

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
RXNUMBER	-.109589	.138791	-.130474	-.790	.4349
(Constant)	2.821918	.256710		10.993	.0000

End Block Number      1      All requested variables entered.

\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..    RECOVERY    type of recovery

Block Number 1.    Method:    Enter    TALKTIME

Variable(s) Entered on Step Number

1..    TALKTIME    time doctor spent talking before diagnos

Multiple R                    .05328  
R Square                      .00284  
Adjusted R Square    -.00703  
Standard Error            .57689

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.09568	.09568
Residual	101	33.61306	.33280

F =            .28749            Signif F =    .5930

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
TALKTIME	.022448	.041867	.053276	.536	.5930
(Constant)	2.590867	.109067		23.755	.0000

End Block Number 1    All requested variables entered.

\* \* \* \* MULTIPLE REGRESSION \* \* \* \*

Listwise Deletion of Missing Data

Equation Number 1      Dependent Variable..      RECOVERY      type of recovery

Block Number 1.      Method: Enter      TIMEPASS TALKTIME SESSIONS RXNUMBER

Variable(s) Entered on Step Number

1..	RXNUMBER	number of prescriptions received
2..	SESSIONS	number of sessions in counseling
3..	TALKTIME	time doctor spent talking before diagnos
4..	TIMEPASS	time since most recent tx

Multiple R	.26692
R Square	.07125
Adjusted R Square	.02422
Standard Error	.51227

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	4	1.59037	.39759
Residual	79	20.73105	.26242

F =            1.51511            Signif F =    .2058

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
TIMEPASS	.044077	.019989	.252230	2.205	.0304
TALKTIME	-.003675	.040734	-.010260	-.090	.9283
SESSIONS	-.003852	.032303	-.013068	-.119	.9054
RXNUMBER	.032696	.050223	.071139	.651	.5169
(Constant)	2.435118	.230567		10.561	.0000

End Block Number    1    All requested variables entered.

\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..    RECOVERY    type of recovery

Block Number 1.    Method:    Enter    TIMEPASS

Variable(s) Entered on Step Number

1..    TIMEPASS    time since most recent tx

Multiple R                    .26886  
R Square                      .07228  
Adjusted R Square            .06291  
Standard Error               .58369

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.62798	2.62798
Residual	99	33.72845	.34069

F =            7.71367            Signif F =    .0066

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
TIMEPASS	.054570	.019648	.268856	2.777	.0066
(Constant)	2.324994	.112954		20.584	.0000

End Block Number    1    All requested variables entered.

## \* \* \* \* MULTIPLE REGRESSION \* \* \* \*

Listwise Deletion of Missing Data

Equation Number 1      Dependent Variable..    RECOVERY    type of recovery

Block Number 1.    Method:    Enter            RXNUMBER SESSIONS TALKTIME

Variable(s) Entered on Step Number

1..    TALKTIME    time doctor spent talking before diagnos  
 2..    SESSIONS    number of sessions in counseling  
 3..    RXNUMBER    number of prescriptions received

Multiple R                    .13256  
 R Square                      .01757  
 Adjusted R Square          -.01710  
 Standard Error              .51344

## Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	.40082	.13361
Residual	85	22.40817	.26363

F = .50680                    Signif F = .6786

## ----- Variables in the Equation -----

Variable	B	SE B	95% Confdnce Intrvl B	Beta
RXNUMBER	.044861	.050092	-.054735    .144456	.096616
SESSIONS	-.019778	.029615	-.078661    .039105	-.072022
TALKTIME	.018360	.039047	-.059277    .095997	.050769
(Constant)	2.672329	.203265	2.268184    3.076474	

## ----- in -----

Variable	T	Sig T
RXNUMBER	.896	.3730
SESSIONS	-.668	.5060
TALKTIME	.470	.6394
(Constant)	13.147	.0000

End Block Number 1    All requested variables entered.

Table of Variables

ITEM #	VARIABLE	DESCRIPTION	ITEM#	VARIABLE	DESCRIPTION
1	AGE	AGE AT TIME OF TX	30	COUNSREC	COUNSELING RECOMMEND
2	GENDER	RESPONDENT'S GENDER	31	COUNSAID	COUNSELING AIDED RECOVERY
3	MARSTAT	MARITAL STATUS	32	TYPECOUN	TYPE COUNSELOR SEEN
4	JOB	RESPONDENT'S OCCUPATION	33	ISSUES	TYPE ISSUES EXPLORED
5	WORKSTAT	EMPLOYMENT STATUS	34	EXPLORED	PRIMARY ISSUE EXPLORED
6	ETHNIC	RESPONDENT'S ETHNICITY	35	RELATED	ISSUE RELATED TO ILLNESS
7	LIVewith	WHOM RESP. LIVED WITH	36	AWARE	COUNSELING AIDED AWARENES
8	FREELoad	WHO LIVED WITH RESPONDENT	37	FEELBETR	RESP FELT BETR AFT COUNSLIN
9	ESTRANGE	ESTRANGED RELATIONSHIPS	38	SESSIONS	NO. COUNSELING SESSIONS
10	PROBREL	PROBLEMATIC RELATIONSHIPS	39	SATURATE	ISSUES EXPLORED THOROUGHLY
11	DIAGNOSE	RESPONDENT'S DIAGNOSIS	40	SHARED	RESP CONFIDED IN OTHERS
12	SYMPTOMS	SYMPTOMS RELATED TO ILLNES	41	RELATION	RELATION TO CONFIDANT
13	DIAGINFO	INFO USED FOR DIAGNOSIS	42	SECRETS	SECRETS RELATED TO ILLNESS
14	SIGNS	AWARENESS OF SYMPTOMS	43	DISCLOSE	DISCLOSURE AIDED RECOVERY
15	SYMPT1	RESP DECIDED TO SEEK HELP	44	CHARACT	PRIMARY PERSONALITY TRAITS
16	OTHPROBS	OTHER PROBLEMS IN LIVING	45	CHARACT2	SECNDARY PERSONALITYTRAITS
17	TYPEPROB	TYPE PROBLEMS IN LIVING	46	CHARACT3	TERTIARY TRAITS
18	PRIOPROB	PRIOR PROBLEMS IN LIVING	47	MULTCARE	MULTIPLE DRS. INVOLVED IN TX
19	FIRSYMPT	1 <sup>st</sup> SYMPT IN RESP'S MEMORY	48	OPENCOMM	DR COMMUNICATED OPENLY
20	ASSESS	DR. ASSESSED ADEQUATELY	49	TALKALOT	DR. TALKED EXTENSIVELY
21	DOCKNEW	DR. DETERMINED ILLNESS	50	TALKTIME	TIME DR. TALKED BEF. DX
22	PHYSONLY	COMPLAINT WAS PHYSICAL	51	BENEFIT	OTHER BENEFITS OF TX
23	MEDBASIS	DR. FOUND NO MED BASIS	52	BENEFIT2	SPECIFIC BENEFITS
24	QUESTION	DR. ASKED ENOUGH QUESTIONS	53	INFORMED	DR. INFORMED RESPONDENT
25	SHOTGUN	DR. TREATED SPECIFIC SYMPTS	54	PARTNTX	PT PARTICPATION ENCOURAGED
26	PRESCRIB	DR. PRESCRIBED MEDS	55	SUBSIDE	PROBLEMS SUBSIDE AFTER TX
27	RXNUMBER	NO. OF MEDS PRESCRIBED	56	CONTINUE	PROBLEMS CONTINUE AFTER TX
28	RECOVERY	EXTENT OF RECOVERY	57	NEWPROBS	NEW PROBLEMS AFTER TX
29	COUNSEL	RESP REC'D COUNSELING	58	TIMEPASS	TIME SINCE TX

### Frequency Tables

#### AGE age at time of treatment

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
under 14	1	14	13.1	13.1	13.1
14-17	2	22	20.6	20.6	33.6
18-21	3	36	33.6	33.6	67.3
22-25	4	4	3.7	3.7	71.0
26-34	5	8	7.5	7.5	78.5
35-59	6	22	20.6	20.6	99.1
60 and older	7	1	.9	.9	100.0
Total		107	100.0	100.0	
Mean	3.374	Median	3.000	Mode	3.000
Valid cases	107	Missing cases	0		

#### GENDER gender of respondent

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
female		66	61.7	61.7	61.7
male		41	38.3	38.3	100.0
Total		107	100.0	100.0	
Valid cases	107	Missing cases	0		



## MARSTAT marital status at time of treatment

---

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single	1	67	62.6	62.6	62.6
engaged	2	4	3.7	3.7	66.4
married	3	30	28.0	28.0	94.4
legally separated	5	2	1.9	1.9	96.3
married but estrange	6	3	2.8	2.8	99.1
divorced	7	1	.9	.9	100.0
		-----	-----	-----	
	Total	107	100.0	100.0	
Mean	1.869	Median	1.000	Mode	1.000
Valid cases	107	Missing cases	0		

---

## ETHNIC respondent's ethnicity

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Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Caucasian	1	85	79.4	79.4	79.4
African American	2	19	17.8	17.8	97.2
Native American	6	2	1.9	1.9	99.1
Italian American	7	1	.9	.9	100.0
		-----	-----	-----	
	Total	107	100.0	100.0	
Mean	1.327	Median	1.000	Mode	1.000
Valid cases	107	Missing cases	0		

---

## TALKTIME Time talking with doctor before diagnosis

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
less than 15 minutes	1	39	36.4	37.9	37.9
15-30 minutes	2	36	33.6	35.0	72.8
30-45 minutes	3	7	6.5	6.8	79.6
45-60 minutes	4	8	7.5	7.8	87.4
more than one hour	5	13	12.1	12.6	100.0
	9	4	3.7	Missing	
		-----	-----	-----	
	Total	107	100.0	100.0	
Valid cases	103	Missing cases	4		

## SYMPTCAT Symptom origin

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
accident or injury	1	29	27.1	27.1	27.1
biomedical illness	2	59	55.1	55.1	82.2
psychosocial/mental	3	1	.9	.9	83.2
uncertain	4	18	16.8	16.8	100.0
		-----	-----	-----	
	Total	107	100.0	100.0	
Valid cases	107	Missing cases	0		

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**CHARACT primary personality traits**


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Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
paranoid	1	11	10.3	11.3	11.3
schizoid	2	9	8.4	9.3	20.6
schizotypal	3	1	.9	1.0	21.6
antisocial	4	2	1.9	2.1	23.7
borderline	5	14	13.1	14.4	38.1
histrionic	6	11	10.3	11.3	49.5
narcissistic	7	5	4.7	5.2	54.6
avoidant	8	3	2.8	3.1	57.7
dependent	9	4	3.7	4.1	61.9
obsessive compulsive	10	37	34.6	38.1	100.0
	11	10	9.3	Missing	
	Total	107	100.0	100.0	
Valid cases	97	Missing cases	10		

---

## Crosstabulation Tables

## Crosstabs of CLUSTERS by ETIOLOGY

CLUSTERS (personality traits) by SOMATIZE (psychosomatic symptoms)

CLUSTERS	Count	psychoso organic		Row Total
	Col Pct Tot Pct	matic		
		1	2	
Cluster A	1	17	4	21
		20.7	26.7	21.6
		17.5	4.1	
Cluster B	2	27	4	31
		32.9	26.7	32.0
		27.8	4.1	
Cluster C	3	38	7	45
		46.3	46.7	46.4
		39.2	7.2	
Column		82	15	97
Total		84.5	15.5	100.0
Number of Missing Observations: 10				

### Crosstabs of PHYSONLY and CLUSTERS

PHYSONLY respondent knows complaint was physical by CLUSTERS

		Count	CLUSTERS			Row Total
	Col Pct	Cluster A	Cluster B	Cluster C		
		Tot Pct	1	2	3	
PHYSONLY						
yes	1	16	27	33	76	
		76.2	87.1	73.3	78.4	
		16.5	27.8	34.0		
no	2	5	4	12	21	
		23.8	12.9	26.7	21.6	
		5.2	4.1	12.4		
Column		21	31	45	97	
Total		21.6	32.0	46.4	100.0	

Number of Missing Observations: 10

### Crosstabs of MEDBASIS and CLUSTERS

MEDBASIS doctor found no medical basis for complaint by CLUSTERS

		CLUSTERS			
Count		cluster	cluster	cluster	
Col	Pct	A	B	C	Row
Tot	Pct				Total
		1	2	3	
MEDBASIS					
yes	1	1	2	6	9
		4.8	6.5	13.6	9.4
		1.0	2.1	6.3	
no	2	20	29	38	87
		95.2	93.5	86.4	90.6
		20.8	30.2	39.6	
Column		21	31	44	96
Total		21.9	32.3	45.8	100.0

Number of Missing Observations: 11

## Crosstabs of SECRETS and RECOVERY

---

SECRETS respondent holds secrets possibly relate  
by RECOVERY type of recovery

Page 1 of 1

		RECOVERY		
	Count	yes	no	
	Row Pct Tot Pct			Row Total
SECRETS		1	2	
yes	1	9	1	10
		90.0	10.0	9.8
		8.8	1.0	
no	2	88	4	92
		95.7	4.3	90.2
		86.3	3.9	
Column		97	5	102
Total		95.1	4.9	100.0

Number of Missing Observations: 5

---

## Chi-Square Tables

### Chi-square analysis of PHYSONLY and BENEFIT

BENEFIT respondent received benefit other than r  
by PHYSONLY respondent knows complaint was physical

		PHYSONLY		Row Total
		yes	no	
BENEFIT	Count Col Pct Tot Pct	1	2	
yes	1	16	14	30
		21.6	70.0	31.9
		17.0	14.9	
no	2	58	6	64
		78.4	30.0	68.1
		61.7	6.4	
Column		74	20	94
Total		78.7	21.3	100.0

Chi-Square	Value	DF	Significance
Pearson	16.95864	1	.00004
Continuity Correction	14.80530	1	.00012
Likelihood Ratio	16.02856	1	.00006
Linear-by-Linear Association	16.77823	1	.00004
Fisher's Exact Test:			
One-Tail			.00009
Two-Tail			.00009
Minimum Expected Frequency -	6.383		

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Lambda :				
symmetric	.16000	.07735	1.82010	.06874
with BENEFIT dependent	.26667	.12766	1.82010	.06874
with PHYSONLY dependent	.00000	.00000		
Goodman & Kruskal Tau :				
with BENEFIT dependent	.18041	.08422		.00004
with PHYSONLY dependent	.18041	.08649		.00004
Gamma	-.78855	.10661	-3.63677	.00028
Pearson's R	-.42475	.10189	-4.50015	.00002
Spearman Correlation	-.42475	.10189	-4.50015	.00002
Number of Missing Observations:	13			

## Chi-square analysis of COUNSEL and SECRETS

COUNSEL counseling received as part of treatment  
by SECRETS respondent holds secrets possibly relate

		SECRETS		Row Total
		yes	no	
COUNSEL	Count Col Pct Tot Pct	1	2	
yes	1	7	10	17
		70.0	10.3	15.9
		6.5	9.3	
no	2	3	87	90
		30.0	89.7	84.1
		2.8	81.3	
Column		10	97	107
Total		9.3	90.7	100.0

Chi-Square	Value	DF	Significance
Pearson	24.17006	1	.00000
Continuity Correction	19.90976	1	.00001
Likelihood Ratio	17.09887	1	.00004
Linear-by-Linear Association	23.94417	1	.00000
Fisher's Exact Test:			
One-Tail			.00007
Two-Tail			.00007

Minimum Expected Frequency - 1.589  
Cells with Expected Frequency < 5 - 1 of 4 ( 25.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Lambda :				
symmetric	.14815	.10238	1.27448	.20249
with COUNSEL dependent	.23529	.16267	1.27448	.20249
with SECRETS dependent	.00000	.00000		
Goodman & Kruskal Tau :				
with COUNSEL dependent	.22589	.10929		.00000
with SECRETS dependent	.22589	.11636		.00000
Gamma	.90610	.06860	2.72629	.00640
Pearson's R	.47528	.12303	5.53528	.00000
Spearman Correlation	.47528	.12303	5.53528	.00000

Number of Missing Observations: 0



# Chi-square analysis of COUNSREC and SECRETS

COUNSREC counseling recommended by physician  
by SECRETS respondent holds secrets possibly relate

		SECRETS		Row Total
		yes	no	
COUNSREC	Count Col Pct Tot Pct	1	2	
yes	1	5	9	14
		50.0	9.3	13.1
		4.7	8.4	
no	2	5	88	93
		50.0	90.7	86.9
		4.7	82.2	
Column Total		10	97	107
		9.3	90.7	100.0

Chi-Square	Value	DF	Significance
Pearson	13.21890	1	.00028
Continuity Correction	9.88058	1	.00167
Likelihood Ratio	9.23271	1	.00238
Linear-by-Linear	13.09536	1	.00030
Association			
Fisher's Exact Test:			
One-Tail			.00322
Two-Tail			.00322

Minimum Expected Frequency = 1.308  
Cells with Expected Frequency < 5 = 1 of 4 ( 25.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Lambda :				
symmetric	.00000	.13176	.00000	1.00000
with COUNSREC dependent	.00000	.22588	.00000	1.00000
with SECRETS dependent	.00000	.00000		
Goodman & Kruskal Tau :				
with COUNSREC dependent	.12354	.09281		.00030
with SECRETS dependent	.12354	.09482		.00030
Gamma	.81443	.12169	2.09006	.03661
Pearson's R	.35148	.13643	3.84711	.00021
Spearman Correlation	.35148	.13643	3.84711	.00021

Number of Missing Observations: 0

## Chi-square analysis of DISCLOSE and RECOVERY

RECOVERY extent of recovery  
by DISCLOSE respondent believes disclosing secret(s)

		DISCLOSE		Row Total
		yes	no	
RECOVERY	Count Col Pct Tot Pct	1	2	
yes	1	4 100.0 3.8	95 93.1 89.6	99 93.4
	2		7 6.9 6.6	7 6.6
Column Total		4 3.8	102 96.2	106 100.0

Chi-Square	Value	DF	Significance
Pearson	.29392	1	.58772
Continuity Correction	.00000	1	1.00000
Likelihood Ratio	.55751	1	.45526
Linear-by-Linear Association	.29115	1	.58949
Fisher's Exact Test:			
One-Tail			.75777
Two-Tail			1.00000

Minimum Expected Frequency - .264  
Cells with Expected Frequency < 5 - 2 of 4 ( 50.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Lambda :				
symmetric	.00000	.00000		
with RECOVERY dependent	.00000	.00000		
with DISCLOSE dependent	.00000	.00000		
Goodman & Kruskal Tau :				
with RECOVERY dependent	.00277	.00108		.58949
with DISCLOSE dependent	.00277	.00141		.58949
Gamma	1.00000	.00000	1.67808	.09333
Pearson's R	.05266	.01648	.53775	.59190
Spearman Correlation	.05266	.01648	.53775	.59190

Number of Missing Observations: 1

### Chi-square analysis of PHYSONLY and MEDBASIS

MEDBASIS doctor found no medical basis for complaint  
by PHYSONLY respondent knows complaint was physical

		PHYSONLY		
Count		yes	no	
Col Pct	Tot Pct			Row
		1	2	Total
MEDBASIS				
	1	4	5	9
yes		4.7	25.0	8.6
		3.8	4.8	
	2	81	15	96
no		95.3	75.0	91.4
		77.1	14.3	
	Column	85	20	105
	Total	81.0	19.0	100.0

Chi-square	Value	DF	Significance
Pearson	8.50873	1	.00353
Continuity Correction	6.11615	1	.01340
Likelihood Ratio	6.67378	1	.00978
Linear-by-Linear Association	8.42770	1	.00370
Fisher's Exact Test:			
One-Tail			.01182
Two-Tail			.01182

Minimum Expected Frequency - 1.714  
Cells with Expected Frequency < 5 - 1 of 4 ( 25.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Lambda :				
symmetric	.03448	.10131	.33351	.73875
with MEDBASIS dependent	.00000	.00000		
with PHYSONLY dependent	.05000	.14620	.33351	.73875
Goodman & Kruskal Tau :				
with MEDBASIS dependent	.08104	.07043		.00370
with PHYSONLY dependent	.08104	.06782		.00370
Gamma	-.74194	.16348	-1.94584	.05167
Pearson's R	-.28467	.12412	-3.01375	.00325
Spearman Correlation	-.28467	.12412	-3.01375	.00325

Number of Missing Observations: 2

## APPENDIX C. CORRELATION MATRICES

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	LIVewith	3.5100	1.0683	100.0
2.	FREELOAD	1.8200	.3861	100.0
3.	ESTRANGE	1.9000	.3015	100.0
4.	PROBREL	1.8600	.3487	100.0

#### Correlation Matrix

	LIVewith	FREELOAD	ESTRANGE	PROBREL
LIVewith	1.0000			
FREELOAD	-.0201	1.0000		
ESTRANGE	-.0282	.2776	1.0000	
PROBREL	.0038	.2610	.1537	1.0000

N of Cases = 100.0

Reliability Coefficients 4 items

Alpha = .1102      Standardized item alpha = .3262

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*  
 R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	DIAGINFO	1.8791	.7577	91.0
2.	SIGNS	1.1099	.3145	91.0
3.	SYMPT1	1.0659	.2907	91.0
4.	OTHPROBS	1.8352	.3731	91.0
5.	PRIOPROB	7.7912	2.5626	91.0
6.	TYPEPROB	7.6923	2.6234	91.0

## Correlation Matrix

	DIAGINFO	SIGNS	SYMPT1	OTHPROBS	PRIOPROB
DIAGINFO	1.0000				
SIGNS	-.0369	1.0000			
SYMPT1	-.0643	.1630	1.0000		
OTHPROBS	.1253	-.0333	-.0011	1.0000	
PRIOPROB	.0212	.0012	.0187	.5098	1.0000
TYPEPROB	.0593	.0145	.0269	.6174	.8779

## TYPEPROB

TYPEPROB	1.0000
----------	--------

N of Cases = 91.0

Reliability Coefficients 6 items

Alpha = .6021      Standardized item alpha = .5207

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

RELIABILITY ANALYSIS - SCALE (ALPHA)

Reliability Coefficients

N of Cases = 92.0

N of Items = 8

Alpha = .3419

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	RECOVERY	2.6145	.6014	83.0
2.	COUNSEL	1.8795	.3628	83.0
3.	COUNSREC	1.8434	.3657	83.0
4.	COUNSAID	2.0120	.4812	83.0
5.	TYPECOUN	7.5060	1.4764	83.0
6.	ISSUES	7.3012	1.6874	83.0
7.	EXPLORED	7.0843	1.8293	83.0

Correlation Matrix

	RECOVERY	COUNSEL	COUNSREC	COUNSAID	TYPECOUN
RECOVERY	1.0000				
COUNSEL	.0081	1.0000			
COUNSREC	.1102	.5914	1.0000		
COUNSAID	-.1523	.5672	.2881	1.0000	
TYPECOUN	.0164	.6160	.7585	.5749	1.0000
ISSUES	-.0284	.6177	.7494	.4761	.7898
EXPLORED	-.0033	.4932	.6034	.3590	.6432

	ISSUES	EXPLORED
ISSUES	1.0000	
EXPLORED	.8569	1.0000

N of Cases = 83.0

Reliability Coefficients 7 items

Alpha = .7973 Standardized item alpha = .8383

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*  
 R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	RELATED	6.0737	2.3440	95.0
2.	AWARE	2.7053	.6503	95.0
3.	FEELBETR	2.6737	.7211	95.0
4.	SESSIONS	5.2421	1.7055	95.0
5.	SATURATE	2.6526	.6960	95.0
6.	SHARED	1.4105	.6603	95.0
7.	RELATION	3.8947	3.4378	95.0
8.	SECRETS	1.9263	.3644	95.0
9.	DISCLOSE	2.4000	.5724	95.0

## Correlation Matrix

	RELATED	AWARE	FEELBETR	SESSIONS	SATURATE
RELATED	1.0000				
AWARE	.4890	1.0000			
FEELBETR	.4927	.9043	1.0000		
SESSIONS	.5011	.7557	.8261	1.0000	
SATURATE	.5114	.8996	.9163	.8423	1.0000
SHARED	-.1984	-.2355	-.3189	-.3159	-.3345
RELATION	-.0466	-.1092	-.1985	-.1734	-.1533
SECRETS	.1559	.2216	.2314	.1659	.2335
DISCLOSE	.1047	.3773	.3196	.2158	.3258

	SHARED	RELATION	SECRETS	DISCLOSE
SHARED	1.0000			
RELATION	.7643	1.0000		
SECRETS	-.0940	-.0487	1.0000	
DISCLOSE	-.0732	-.2379	.3468	1.0000

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

N of Cases = 95.0

Reliability Coefficients 9 items

Alpha = .4453      Standardized item alpha = .7220



\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*  
 R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	RELATED	5.9205	2.3694	88.0
2.	AWARE	2.6818	.6703	88.0
3.	FEELBETR	2.6477	.7434	88.0
4.	SESSIONS	5.1818	1.7587	88.0
5.	SATURATE	2.6250	.7162	88.0
6.	SHARED	1.4432	.6757	88.0
7.	RELATION	4.0114	3.4823	88.0
8.	SECRETS	1.9091	.3600	88.0
9.	DISCLOSE	2.3864	.5760	88.0
10.	CHARACT	6.8068	3.3558	88.0
11.	CHARACT2	6.9659	2.9300	88.0
12.	CHARACT3	7.2386	3.0210	88.0

## Correlation Matrix

	RELATED	AWARE	FEELBETR	SESSIONS	SATURATE
RELATED	1.0000				
AWARE	.4760	1.0000			
FEELBETR	.4798	.9027	1.0000		
SESSIONS	.4890	.7517	.8232	1.0000	
SATURATE	.4970	.8979	.9148	.8396	1.0000
SHARED	-.1644	-.2180	-.3035	-.3007	-.3177
RELATION	-.0194	-.0969	-.1894	-.1636	-.1411
SECRETS	.1262	.2122	.2226	.1535	.2229
DISCLOSE	.0902	.3816	.3215	.2135	.3274
CHARACT	-.0395	.0132	-.0276	-.0797	-.0305
CHARACT2	-.0732	.0471	.0050	.0347	.0103
CHARACT3	.1713	.1004	.0993	.1345	.1109
	SHARED	RELATION	SECRETS	DISCLOSE	CHARACT
SHARED	1.0000				
RELATION	.7746	1.0000			
SECRETS	-.0687	-.0267	1.0000		
DISCLOSE	-.0611	-.2257	.3377	1.0000	
CHARACT	.0078	-.0264	.0329	-.0026	1.0000
CHARACT2	.0600	.1330	.0842	-.0466	.2682
CHARACT3	-.0693	.0303	.0625	.0125	.1441
	CHARACT2	CHARACT3			
CHARACT2	1.0000				
CHARACT3	.2866	1.0000			

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )  
 N of Cases =                      88.0

Reliability Coefficients                      12 items                      N of  
 Alpha = .4414                      Standardized item alpha = .6716

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	MULTCARE	1.3205	.4697	78.0
2.	OPENCOMM	1.1026	.3054	78.0
3.	TALKALOT	1.2051	.4064	78.0
4.	INFORMED	1.1410	.3503	78.0
5.	PARTNTX	1.2179	.4155	78.0

Correlation Matrix

	MULTCARE	OPENCOMM	TALKALOT	INFORMED	PARTNTX
MULTCARE	1.0000				
OPENCOMM	-.0511	1.0000			
TALKALOT	-.1448	.4562	1.0000		
INFORMED	.1164	-.0156	.1591	1.0000	
PARTNTX	.1698	.0262	.1932	.4106	1.0000

N of Cases = 78.0

Reliability Coefficients 5 items

Alpha = .4124      Standardized item alpha = .4320

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )

		Mean	Std Dev	Cases
1.	CONTINUE	1.9604	.7338	101.0
2.	NEWPROB	1.8911	.4669	101.0
3.	TIMEPASS	4.9307	2.9707	101.0

Correlation Matrix

	CONTINUE	NEWPROB	TIMEPASS
CONTINUE	1.0000		
NEWPROB	.2792	1.0000	
TIMEPASS	-.0884	.1171	1.0000

N of Cases = 101.0

Reliability Coefficients 3 items

Alpha = .0202                      Standardized item alpha = .2554

**APPENDIX D. HUMAN SUBJECTS DOCUMENTATION**



## Information for Review of Research Involving Human Subjects

Iowa State University

(Please type and use the attached instructions for completing this form)

1. Title of Project Psychosocial factors associated with effective health care in marital and family systems
2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal of approval for any project continuing more than one year.

<u>Clifford Jernigan</u>	<u>12/23/99</u>	<u><i>Clifford Jernigan</i></u>
Typed name of principal investigator	Date	Signature of principal investigator
<u>Human Development/Family Studies</u>	<u>P. O. Box 2856</u>	<u>Jackson, MS 39207-2856</u>
Department	Campus address	
<u>(601) 981-5090</u>		
Phone number to report results		

3. Signatures of other investigators	Date	Relationship to principal investigator
<u><i>Henry Jernigan</i></u>	<u>2/22/00</u>	<u>Major Professor</u>

4. Principal investigator(s) (check all that apply)

☐ Faculty      ☐ Staff      ☒ Graduate student      ☐ Undergraduate student

5. Project (check all that apply)

☐ Research      ☒ Dissertation      ☐ Class project      ☐ Independent Study (490, 590, Honors project)

6. Number of subjects (complete all that apply)

# adults, non-students: 300      # minors under 14: 0      # minors 14 - 17: 0

# ISU students: 0      other 0

(explain): \_\_\_\_\_

7. Brief description of proposed research involving human subjects: (See instructions, item 7. Use an additional page if needed.)

The problem to be examined is whether or not psychosocial factors related to marital and family therapy contribute to effective health care. Also, the investigator is concerned with what factors are found to correlate well with the continuum of recovery from illnesses or conditions that caused subjects to seek treatment. The primary method for gathering data will be the survey method. Subjects who have a reason for visiting a medical center or health care system will be interviewed for their responses relative to the items in the survey instrument. A structured interview will be used to elicit the relevant data from subjects. A copy of the survey instrument is attached. The survey instrument is composed of no more than 58 items and is expected to require less than one hour to administer.

(Please do not send research, thesis, or dissertation proposals.)

8. Informed  
Consent:

☒ Signed informed consent will be obtained. (Attach a copy of your form.)

☐ Modified informed consent will be obtained. (See instructions, item 8.)

☐ Not applicable to this project.

9. Confidentiality of Data: Describe below the methods you will use to ensure the confidentiality of data obtained. (See instructions, item 9.)

Consent forms will be maintained separate from survey response sheets. No identifying information other than demographic data will be used as survey data. After data have been obtained, results will be entered into SPSS without any identifying information other than the demographic data already indicated.

10. What risks or discomfort will be part of the study? Will subjects in the research be placed at risk or incur discomfort? Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.)

None. Any questions found to be offensive or intrusive by a pilot group have been removed or modified. No other risk has been uncovered at present.

11. CHECK ALL of the following that apply to your research:

- ☐ A. Medical clearance necessary before subjects can participate  
☐ B. Administration of substances (foods, drugs, etc.) to subjects  
☐ C. Physical exercise or conditioning for subjects  
☐ D. Samples (blood, tissue, etc.) from subjects  
☐ E. Administration of infectious agents or recombinant DNA  
☐ F. Deception of subjects  
☐ G. Subjects under 14 years of age and/or ☐ Subjects 14 - 17 years of age  
☐ H. Subjects in institutions (nursing homes, prisons, etc.)  
☐ I. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

Items A-E Describe the procedures and note the proposed safety precautions.

n/a

Items D-E The principal investigator should send a copy of this form to Environmental Health and Safety, 118 Agronomy Lab for review.

na

Item F Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

na

Item G For subjects under the age of 14, indicate how informed consent will be obtained from parents or legally authorized representatives as well as from subjects.

N/A

Items H-I Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.

na

Last name of Principal Investigator Clifford Jernigan

**Checklist for Attachments and Time Schedule**

The following are attached (please check):

12. Letter or written statement to subjects indicating clearly:
- a) the purpose of the research
  - b) the use of any identifier codes (names, #s), how they will be used, and when they will be removed (see item 17)
  - c) an estimate of time needed for participation in the research
  - d) if applicable, the location of the research activity
  - e) how you will ensure confidentiality
  - f) in a longitudinal study, when and how you will contact subjects later
  - g) that participation is voluntary; nonparticipation will not affect evaluations of the subject
13. ☒ Signed consent form (if applicable)
14. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)
15. ☒ Data-gathering instruments

16. Anticipated dates for contact with subjects:

First contact

Last contact

February 28, 2000

April 30, 2000

Month/Day/Year

Month/Day/Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

n/a

Month/Day/Year

18. Signature of Departmental Executive Officer

Date

Department or Administrative Unit

Maurice H. Jernigan

2-28-00

HDFS

19. Decision of the University Human Subjects Review Committee:

☒ Project approved

☐ Project not approved

☐ No action required

Name of Human Subjects in Research Committee Chair

Date

Signature of Committee Chair

Patricia M. Keith

3-16-00

PM Keith



### Informed Consent for Participation in Research Activity

This survey is part of a study designed to understand how people experience their treatment by health care systems in the United States.

Generally, health care involves both medical and mental treatment by appropriately trained professionals. This study is designed to determine how people experience being treated by health care professionals. A primary concern is whether participants were satisfied with health care treatment and providers. A secondary concern is with whether the need for treatment was due to physical/organic problems, mental/emotional problems, or injury. Also, researcher(s) are concerned with patients' perceptions of whether they were treated appropriately, such as in cases where the problem for which attention was sought had to do with both medical and mental illnesses. In such cases the appropriate treatment might include both physical *and* psychiatric *or* psychological assessments. For instance, treatment for hypertension might include a physical examination to determine organic symptoms, prescription medication to alleviate symptoms, and counseling for stress.

This questionnaire contains about fifty-eight items. With the help of an interviewer, participants are being asked to complete the survey items. The interviewer is trained for this particular instrument and will be responsible for helping the participant understand each question. Participants are being asked to do no more than answer the items on the questionnaire. The interview is structured to last no more than one hour. Thank you for your participation.

#### Risks

Risks associated with participation in this research project are minimal. Participants may experience some discomfort when a question tends to probe into sensitive areas of their lives. The interviewer is trained to be alert to indications of discomfort. You are advised to alert the interviewer to any question which may evoke traumatic memories or uncomfortable feelings associated with past negative experiences.

#### Benefits

Expected benefits include the following: (1) Interviewers are trained to make recommendations for counseling assistance in relation to any traumatic or problematic experiences uncovered while answering survey items; (2) Participants are entitled to receive up to three free sessions of mental health counseling as a result of participation in this study; (3) Results will be used to determine more appropriate treatment methods for patients; (4) Results will be helpful in development of more levels of treatment for illnesses or mental conditions.

#### Confidentiality

Every effort will be taken to insure the confidentiality of participants. The only record of your participation will be your signature on this consent form. The actual questionnaire will have no identifying information other than demographic data. In addition, participants are asked to disclose only what is comfortable for them. Participants may choose not to answer any questions or parts thereof deemed to be offensive or intrusive in any way.

**Contact persons:** In case of questions or concerns the following persons may be contacted:

Clifford Jernigan  
P.O. Box 2856  
Jackson, MS 39207-2856  
601 981-5090

Dr. Harvey Joanning  
Elm Hall, Suite 1099  
Iowa State University  
Ames, IA 50011  
515 294-5215

I, \_\_\_\_\_, give full consent to participation in this survey without undue inducement or an element of force, fraud, deceit, duress, or other form of constraint or coercion.

**Cards and phone numbers for participants to call**

**Front of card**

**Back of card**

**CLIFFORD JERNIGAN, LMFT**

4680 McWillie Drive  
Jackson, MS 39207-2856  
(601) 981-5090

**Locations to call for Counseling Questionnaire**

(601) 981-5090 (North Jackson)  
(601) 968-1321 (Central Jackson)  
(601) 925-7608 (South Jackson)

**CLIFFORD JERNIGAN, LMFT**

4680 McWillie Drive  
jackson, MS 39207-2856  
(601) 981-5090

**Locations to call for Counseling Questionnaire**

(601) 981-5090 (North Jackson)  
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**Locations to call for Counseling Questionnaire**

(601) 981-5090 (North Jackson)  
(601) 968-1321 (Central Jackson)  
(601) 925-7608 (South Jackson)

### **Script for Inviting Participation in Research**

- A. "Excuse me, ma'am/sir, I'm a counselor-in-training, and we're trying to understand how life problems contribute to physical illness. Would you like to participate in a survey about the connection between illness and problems in life."**
- B. (If yes), "Thank you for stopping and agreeing to participate. I am (state name here), I am in a counseling training program."**
- C. We want to know if there is a connection between illness and problems people have in daily living? Have you had any physical illness in the past two to three years? Did you believe that illness to be in any way related to some problem you may have been having at or prior to that time?"**
- D. "If so, please take one of our cards and informed consent forms. You can call in the next few days and come to one of our offices to complete a questionnaire, which takes about thirty to forty minutes?"**
- E. "For participating in our survey, you can call any of our offices and receive three free counseling sessions or one free consultation about a problem you may have now or in the next three to six months."**
- F. "Here is my card with the phone numbers you can call, and you can take the informed consent with you to read before coming to complete the questionnaire."**

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## **ACKNOWLEDGEMENTS**

The undertaking of such endeavors as a terminal degree is accomplished only with the help of angels who walk in our midst. It is with this sentiment that I gratefully acknowledge two people who have touched my life in the deepest sense.

The first person is Dahlia Stockdale, who came into my life as a bright light, a positive spirit whose intensity shall forever shine in my heart. I will think of you always, although I knew you so briefly.

The second person I wish to thank is Harv Joanning, a man I knew before I met him. From the first phone conversation to the hours spent mind melding the elaborate wonders of science and the final frontier, his kindness and patience has always amazed me. It is my hope that I may so inspire others the way I have been inspired. Harv has taken the time to know someone from a world very foreign to his own, yet not so foreign because he always found common ground. At times it was if our ideas and thoughts were one, a synergism I have never known before, nor shall ever know again. I shall never forget what I have been shown. "Live long and prosper."